State of Missouri
Treatment Needs Assessment Project

Substance Abuse and Need for Treatment Among Missouri Jail Inmates, 2001

July 2003

CSAT
Center for Substance Abuse Treatment
SAMHSA

Substance Abuse and Need for Treatment Among Missouri Jail Inmates, 2001

Prepared for the

Missouri Department of Mental Health
Division of Alcohol and Drug Abuse

Prepared by

Final Report

Joyce Ann O'Neil
Christopher Krebs
Willem Koetse
Allison Forti
Valley Rachal

Prepared under
CSAT Grant No. 5H79 TI12229

July 2003

*RTI International is a trade name of Research Triangle Institute.

Acknowledgments

This report was developed jointly by the Missouri Department of Mental Health, Division of Alcohol and Drug Abuse (ADA) and RTI, 3040 Cornwallis Road, P.O. Box 12194, Research Triangle Park, NC 27709. This work was supported by the Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration (SAMHSA), Department of Health and Human Services (DHHS), under Grant No. 5H79 TI12229.

The authors wish to acknowledge the ADA staff for their support, encouragement, and input, especially Donna Nelson, Christie Lundy, Ph.D., and Randy Smith. The authors also would like to acknowledge the contributions of the following:

- BeLinda Weimer (RTI) for reviewing the report and providing feedback;
- Catherine Boykin and Linda Fonville (RTI), for providing word processing support services;
- Carol Offen (RTI) for editing the report;
- St. Louis County, Greene County, Jackson County, and Boone County jail administrators and their respective staffs;
- escorts at the jails; and
- participating Missouri jail inmates.

Randy Smith served as the State Project Director, Valley Rachal served as the RTI Project Director, Christopher P. Krebs served as the RTI Study Leader, and Nita Fleagle served as the CSAT Project Officer (PO).

For further information, contact:

Missouri Department of Mental Health
Division of Alcohol and Drug Abuse
1706 E. Elm
P.O. Box 687
Jefferson City, MO 65102
Telephone: (573) 751-4942
TT: (573) 751-4942
Fax: (573) 751-7814
Web Site: http://www.dmh.missouri.gov/ada/index.htm

Table of Contents

Chapter **Page**

Table of Contents (continued)

Chapter **Page**

Table of Contents (continued)

Chapter **Page**

Appendixes

List of Tables

Number **Page**

List of Tables (continued)

Number **Page**

List of Tables (continued)

Number **Page**

List of Tables (continued)

Number **Page**

List of Figures

Number **Page**

Executive Summary

The Substance Abuse and Treatment Needs Assessment Project (STNAP) of Missouri Jail Inmates, 2001, was conducted by Missouri's Department of Mental Health (DMH), Division of Alcohol and Drug Abuse (ADA). It is the first ADA study that estimates the prevalence of drug use (including alcohol and tobacco) and need for alcohol or drug treatment or intervention among the State's jail population. For this report, prevalence rates of substance use and treatment need were estimated for adult male and female jail inmates housed in four jails throughout the state. This report also examines inmates' willingness to obtain treatment, the barriers they encountered when seeking treatment, and the relationship between substance use and criminality. To determine how adult jail inmates' substance use and need for treatment differ from those of nonincarcerated adults, comparisons are made between jail inmates and adults who responded to the 2001/2002 Missouri Household Telephone Survey.

Study Design

The sampling frame for this study of Missouri's jail population utilized four jails in the state: Boone County, Jackson County, St. Louis County, and Greene County. A random sample of male inmates was drawn from the St. Louis County and Jackson County jails; all eligible males in Boone County and Greene County were approached to participate in the study. Sampling was unnecessary for females in all of the jails, given the smaller number of female inmates. Inmates who agreed to the interview had $10 deposited in their account.

The questionnaire used in this study was developed from several relevant instruments, including the Center for Substance Abuse Treatment (CSAT) Inmate Core Protocol Survey Form; the Texas Commission on Alcohol and Drug Abuse (TCADA) Prison Survey; the Louisiana Substance Abuse Treatment Needs Assessment Prison Survey; and the Diagnostic Interview Schedule (DIS). The instrument was programmed into a computer-assisted personal interview (CAPI) and administered using a laptop computer.

Highlights of Findings

Characteristics of Missouri Jail Inmates

The study obtained detailed information on numerous demographic and socioeconomic characteristics of the Missouri jail inmate sample, including the following: more than half of the inmates reported having never been married; 56% of the males and 44% of the females reported working full-time in the year prior to their current incarceration; more than half of the males and 70% of the females reported living in households that earned less than $20,000 in the year prior to incarceration; and more than one-third of the male and female inmates reported never completing high school or receiving a General Educational Development (GED) degree.

The study also examined the inmates' physical and mental health status. Approximately half of the inmates rated their physical health as being excellent or very good, and 40% rated their mental health as being excellent or very good. Female inmates rated their physical and mental health less favorably than did their male counterparts. Females also reported a higher prevalence of general mental health problems and depression (as measured by a seven-item depression inventory). Similarly, women were more likely to report serious thoughts of suicide, although reports of suicide attempts were approximately the same for men and women.

At least half of the inmates reported having a relative or a spouse/partner who had an alcohol, drug, or psychological problem. Women were much more likely than men (52% compared with 20%) to report having a spouse or partner who had been incarcerated.

By far, the most commonly reported crime (irrespective of arrest) committed by the inmates in their lifetime was drug crime (trafficking, dealing, and possession): the mean number was 333, compared with 32 property crimes, and only 6 violent crimes. The mean number of lifetime arrests reported by the inmates was approximately 14.

Substance Use

Lifetime licit substance use was reported at similar rates by inmates and household respondents, but illicit drug use showed marked differences.

- The large majority of jail inmates (95% of males and 89% of females) reported using a tobacco product at least once in their lifetime, and 70% of inmates reported having used tobacco in the month prior to incarceration. Lifetime tobacco use was reported at similar rates by household respondents; past month tobacco use, however, was substantially higher for inmates.
- Similarly, almost all inmates had used alcohol in their lifetime: 96% of the males and 93% of the females. The majority also reported using alcohol in the year (82%) and month (66%) prior to incarceration. Lifetime alcohol use was reported at similar rates by household respondents; however, inmates were much more likely to report past year and past month use of alcohol.
- Inmates reported high lifetime rates of cocaine, hallucinogen, amphetamine, and heroin/opiate use compared with household respondents. For example, over half of the inmates (51%) reported having ever tried hallucinogens compared with 10% of the household respondents.
- Two-thirds of the inmates reported illicit drug use in the month prior to incarceration compared with 4% of the household respondents. In fact, less than 5% of the household respondents reported using any illicit drug during the past month. Inmates' reports of use in the month prior to incarceration, on the other hand, ranged from 7% for heroin/opiates to 53% for marijuana.

Factors Related to Substance Use

In addition to estimating prevalence rates for substance use, this study investigated the factors or characteristics of Missouri jail inmates that were related to alcohol and illicit drug use. Significant findings included the following:

- Multivariate logistic regression models identified several variables that *increased* the likelihood of male inmates' heavy alcohol use in the year prior to incarceration, including powder cocaine use and having suicidal ideations. Factors that *decreased* the likelihood of heavy alcohol use among males included being unemployed, having three to five children (compared with having no children), and having been a victim of sexual abuse.
- Multivariate logistic regression models identified several variables that *increased* the likelihood of male inmates' illicit drug use in the year prior to incarceration, including drug crimes committed in the year prior to incarceration and having a spouse or partner with a drug, alcohol, or psychological problem. Age was found to be associated with a *decrease* in the likelihood of reported illicit drug use: older male inmates were less likely to report illicit drug use in the year prior to incarceration.
- Multivariate logistic regression models identified several variables that *increased* the likelihood of female inmates' heavy alcohol use in the year prior to incarceration, including having a relative with a drug, alcohol, or psychological problem; having a spouse or partner with a drug, alcohol, or psychological problem; residing in a hospital, jail, or shelter, or having no fixed address in the year prior to incarceration; and reports of getting into arguments or fights in the year prior to incarceration. One factor—site—*decreased* the likelihood of heavy alcohol use among females: female inmates from Jackson County were less likely than those from St. Louis County to report heavy alcohol use.
- Multivariate logistic regression models identified several variables that *increased* the likelihood of female inmates' illicit drug use in the year prior to incarceration, including having a spouse or partner with a

drug, alcohol, or psychological problem; and reports of getting into arguments or fights in the year prior to incarceration. One factor—site—*decreased* the likelihood of illicit drug use: female inmates from Greene County were less likely than those from St. Louis County to report illicit drug use.

Need for Treatment or Intervention

The American Psychiatric Association's (APA) criteria for substance dependence and abuse, as published in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th Edition (DSM-IV), were used to classify Missouri jail inmates in need of alcohol or drug treatment or intervention (APA, 1994). Major treatment findings included the following:

- One-third of the Missouri jail inmates were found to be dependent on alcohol in the year prior to incarceration, compared with 2% of the household respondents.
- More than 40% of the inmates were drug dependent in the year prior to incarceration compared with less than 1% of the household respondents.
- More than half (53%) of the Missouri jail inmates met the criteria for alcohol or drug dependence in the year prior to incarceration, compared with 3% of the household respondents.
- Eighty-six percent of the inmates were estimated to have needed alcohol or drug treatment or intervention during the year prior to incarceration. This figure is substantially higher than comparable figures for the household population (24%).
- Multivariate logistic regression models found that for male inmates, factors related to an *increased* likelihood of meeting the criteria for alcohol or drug treatment included the number of drug crimes committed in the year prior to incarceration; having a relative with an alcohol, drug, or psychological problem; having a spouse who has been incarcerated; and high scores on the depression scale. Factors that *decreased* the likelihood included having six or more children (compared with having no children) and having difficulty looking forward to what your life would be like in the future.
- Multivariate logistic regression models also found that for male inmates, factors related to an *increased* likelihood of meeting the criteria for alcohol or drug treatment *or* intervention included the number of drug crimes committed in the year prior to incarceration; having a spouse or partner with a drug, alcohol, or psychological problem; and inability to remember parts of childhood or certain periods of life. Factors that *decreased* the likelihood included the number of days incarcerated in the year prior to incarceration and having been a victim of sexual abuse.
- Multivariate logistic regression models found that for female inmates, factors related to an *increased* likelihood of meeting the criteria for alcohol or drug treatment included the number of drug crimes and the number of arrests reported in the year prior to incarceration; having a relative with a drug, alcohol, or psychological problem; and having suicidal ideations. One factor—having three to five children (compared with having no children)—was associated with a *decreased* likelihood of meeting the criteria.
- Multivariate logistic regression models found that for female inmates, factors related to an *increased* likelihood of meeting the criteria for alcohol or drug treatment *or* intervention included the number of drug crimes and the number of arrests reported in the year prior to incarceration; having a relative with an alcohol, drug, or psychological problem; never having been married; and difficulty looking to the future. One variable—race—was found to be associated with need for alcohol or drug treatment or intervention: African American women

were *less* likely than White women to meet the criteria for treatment or intervention.

Relationship Between Substance Use and Criminal Activity

The study examined the complex relationship between the Missouri jail inmates' criminal activity and substance use. Key findings included the following:

- Inmates who reported use of illicit drugs or illicit drugs excluding marijuana reported a higher mean number of arrests than inmates who had not reported use of illicit drugs or illicit drugs excluding marijuana. There was little difference between inmates who reported heavy alcohol use and non-heavy alcohol users in reported mean number of arrests.
- Inmates who reported heavy alcohol use, illicit drug use, or illicit drug use excluding marijuana reported a higher mean number of violent crimes in the year prior to incarceration than did nonusers.
- Inmates who reported illicit drug use or illicit drug use excluding marijuana reported a higher mean number of property crimes in the year prior to incarceration than nonusers. Inmates reporting heavy alcohol use reported a lower mean number of property crimes in the year prior to incarceration than non-heavy alcohol users.
- Inmates who reported heavy alcohol use, illicit drug use, or illicit drug use excluding marijuana reported a higher mean number of drug crimes in the year prior to incarceration than nonusers.
- Almost half of the inmates reported being drunk or high when they committed the crime that led to their current incarceration, and two-thirds of them indicated they would not have committed the crime had they not been drunk or high.

Factors Related to Criminal Activity

- Regression analysis found that for male inmates, factors related to an *increase* in the number of violent crimes reported in the year prior to incarceration included not having graduated from high school; high numbers of property crimes committed in the year prior to incarceration; reports of being beaten or seriously physically hurt by an adult; and residing in a hospital, jail, or shelter, or having no fixed residence.
- Regression analysis found that for male inmates, factors related to an *increase* in the number of property crimes reported in the year prior to incarceration included high numbers of drug crimes committed in the year prior to incarceration; having a relative with an alcohol, drug, or psychological problem; and powder cocaine use in the year prior to incarceration. One factor was associated with a *decrease* in reported property crime: having ever received a mental health diagnosis.
- Regression analysis found that for male inmates, factors related to an *increase* in the number of drug crimes reported in the year prior to incarceration included site (inmates in Greene County were more likely than inmates in St. Louis County to report having committed a drug crime); race (non-Whites and non-African Americans were more likely than White inmates to report having committed a drug crime); high numbers of property crime reported in the year prior to incarceration; residing in a hospital, jail, or shelter, or having no fixed residence; and reported use of marijuana, hallucinogens, or amphetamine in the year prior to incarceration.
- Regression analysis found that for female inmates, factors related to an *increase* in the number of violent crimes reported in the year prior to incarceration included the number of reported arrests in the year prior to incarceration, hallucinogen use in the year prior to incarceration, having one to two children (compared with having no

children), and having sometimes or frequently experienced hallucinations.

- Regression analysis found that for female inmates, factors related to an *increase* in the number of property crimes reported in the year prior to incarceration included age, reported arrests, and reported use of amphetamine in the year prior to incarceration.

- Regression analysis found that for female inmates, factors related to an *increase* in the number of drug crimes reported in the year prior to incarceration included site (females in Greene County and Jackson County were more likely than those in St. Louis County to report having committed a drug crime); residing in a hospital, jail, or shelter, or having no fixed residence in the year prior to incarceration; crack, amphetamine, and heroin use in the year prior to incarceration; feelings of anxiety or tension in the year prior to incarceration; and poor, fair, or good physical health compared with very good or excellent health. Variables found to be significantly related to a *decrease* in reported drug crimes included age and having received a mental health diagnosis.

Need for Treatment or Intervention and Criminal Activity

Inmates deemed to be in need of alcohol or drug treatment reported more involvement with the criminal justice system. For example, the mean number of arrests in the year prior to incarceration was higher for inmates who met the criteria for treatment need compared with inmates who did not. Other findings included the following:

- Inmates in need of treatment reported a higher mean number of violent, property, and drug crimes in the year prior to incarceration than inmates who were not in need of treatment.

- Inmates in need of treatment *or* intervention reported a higher mean number of violent, property, and drug crimes in the year prior to incarceration than inmates who were not in need of treatment *or* intervention.

Willingness and Barriers to Receiving Alcohol or Drug Treatment

One-third of the inmates who reported using drugs in the year prior to incarceration said that they would have been willing to receive treatment. Female inmates were more likely to report willingness than were male inmates, 43% versus 31%, respectively.

The inmates who said they were willing to receive treatment (and had used drugs in the year prior to incarceration) were read a list of potential barriers to treatment and asked if any of these barriers had influenced their decision to not seek treatment in the year before their incarceration. Male inmates were most likely to report financial issues as the greatest barrier to treatment: 47% reported that they could not pay for treatment. Female inmates were most likely to report too few treatment slots: 48% stated that treatment programs were full.

Of the inmates who expressed a willingness to receive treatment, more than three-quarters (77%) cited at least one barrier that precluded them from seeking or receiving treatment.

Implications for Treatment Planning and Policy

A substantial proportion of Missouri jail inmates reported substance use problems and were found to be in need of treatment or intervention prior to incarceration. Additionally, inmates who reported drug use also reported a higher prevalence of arrest and criminal activity. This research has several implications that may benefit the State of Missouri:

- **Increasing availability of treatment services**. This step would address the substance abuse treatment needs of many who might otherwise end up in the criminal justice system. Reducing criminality would affect incarceration rates and potentially reduce the burden to the State.

- **Increasing the amount of comprehensive substance abuse treatment services available to incarcerated persons**. Treating jail inmates while they are incarcerated poses an excellent opportunity to meet the needs of a high-risk population and prevent the consequences and related costs of future criminality that can be exacerbated by substance use.

- **Diverting a portion of its jail inmates to community-based substance abuse treatment facilities**. Inmates with limited and nonviolent criminal histories who are in need of substance abuse treatment or intervention might be better served by treatment than incarceration, which could save the State valuable resources by reducing the short-terms costs associated with incarcerating nonviolent substance users as well as the long-term costs of prosecuting and incarcerating those who recidivate.

Conclusions

This study identified several areas of need for the Missouri jail inmates that the State of Missouri can address by improving the quality of and access to substance abuse treatment services for jail inmates. Many of the inmates have not had their substance abuse treatment needs addressed.

The State may benefit both economically and socially by providing comprehensive treatment to jail inmates. Those who are at risk of using drugs and becoming criminally involved, as well as those who have already become criminally involved, might benefit from substance abuse treatment. Effective substance abuse treatment has been shown to reduce criminality and recidivism. The State of Missouri may consider it worthwhile to implement a system that identifies those offenders in need of treatment or intervention and provides appropriate treatment services.

1. Introduction and Background

Substance abuse continues to be one of the nation's most serious problems. Poor health, disrupted social relations, an inability to maintain employment, and criminality are just a few of the consequences associated with substance abuse. Additionally, the community often suffers repercussions such as increasing levels of crime, violence, and unemployment, as well as the financial burdens associated with these problems (Horgan, Marsden, & Larson, 1993). Every sector of society spends large sums of money to combat these repercussions, but states tend to shoulder the heaviest financial burden (National Center on Addiction and Substance Abuse at Columbia University, 2001). Fortunately, substance abuse is treatable, and the benefits of alcohol and drug treatment flow not only to the individual but to the community as well (Gerstein et al., 1994; Hubbard et al., 1989).

Data were collected from inmates who were housed in four jails throughout the state: Greene County, Jackson County, Boone County, and St. Louis County.

In order to examine the substance use and treatment needs in the State of Missouri, data were gathered from adult households and inmates incarcerated in Missouri jails. This report presents findings from the inmate interviews.

This is the first study conducted by Missouri's Department of Mental Health (DMH), Division of Alcohol and Drug Abuse (ADA) that estimates the prevalence of drug use (including alcohol and tobacco) and need for alcohol or drug treatment or intervention among the state's jail population. The study also examines inmates' unmet demand for treatment, treatment experiences, and the barriers they face when seeking treatment. Data were collected from inmates who were housed in four jails throughout the state: Greene County, Jackson County, Boone County, and St. Louis County.

This chapter provides background on the State's treatment needs assessment studies, objectives of the jail study, Missouri's geographic and population characteristics, and Missouri's jail population. The second chapter describes the study design and methodology, and the third presents characteristics of inmates in the Missouri jail system. The remaining chapters provide prevalence estimates of substance use and need for treatment or intervention and describe jail inmates' treatment experiences and readiness for treatment, the barriers they have faced in obtaining treatment, and the relationship between substance abuse and

treatment needs and criminality. The final chapter summarizes key findings and the implications of these findings.

1.1 Overview of Missouri's State Treatment Needs Assessment Project (STNAP)

In an effort to obtain information on substance use problems and the need for treatment or intervention services among various segments of the population, the Center for Substance Abuse Treatment (CSAT) has made funding available for states to conduct studies of the prevalence of substance abuse in their communities. In 1992, CSAT awarded the first round of three-year contracts to 13 states for the State Treatment Needs Assessment Project (STNAP). Since then, CSAT has issued at least one contract to each of the 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands. STNAP was designed to assist states in developing data collection and analysis infrastructures for surveillance, planning, budgeting, and policy development.

In 1995, the Missouri ADA received funding for its first STNAP, which consisted of five complementary studies that included both primary data collection and secondary analysis of existing data. The cornerstone of this STNAP was a household telephone survey designed to examine the substance use and need for treatment among the adult household population (Kroutil et al., 1997).

In 1999, the State of Missouri secured funding for a second STNAP consisting of the following three studies:

- Study 1: Substance Use and Treatment Needs Among Households, 2001/2002;
- Study 2: Substance Use and Treatment Needs Among Jail Inmates, 2001; and
- Study 3: Integrated Population Estimates of Substance Abuse Treatment Needs, 2002.

Together the studies from both of Missouri's STNAPs provide an important knowledge base for estimating substance use and treatment needs, and allocating resources within the state. RTI collaborated with the State on both STNAPs.

1.2 Study Overview and Objectives

In response to the need to better develop appropriate programs for jail inmates, Missouri chose to include in its second STNAP a survey of adult male and female jail inmates. This study was designed to help inform State officials of alcohol, tobacco, and other drug treatment needs in the state so they can develop appropriate screening, assessment, and treatment programs for the jail population.

The main objectives of the study are to estimate

- the prevalence of use of alcohol and other drugs (e.g., marijuana, hallucinogens, powder cocaine, crack cocaine, heroin/opiates, amphetamine, and inhalants);
- the prevalence of drug abuse and dependence, and the prevalence of specific drug abuse and dependence symptoms;
- the extent and type of treatment services inmates received;
- the need for substance abuse treatment services;
- the extent to which the need for services is currently being met; and
- jail inmates' actual or perceived willingness to receive substance abuse treatment.

In addition, this report examines barriers to treatment and seeks to determine the extent to which substance abuse problems may be related to criminality.

1.3 The State of Missouri

Missouri covers approximately 68,886 square land miles, making it the 18th largest state in the nation (U.S. Census Bureau, 2000). Based on the 2002 Census estimate, Missouri is the 17th most populated state in the nation, with a population of 5,629,707 residents. Approximately 26% of the population in 2000 was aged 17 or younger, whereas 60% was aged 18 to 64, and 14% was aged 65 or older (U.S. Census Bureau, 2000). The median age in Missouri in 2000 was 36 years (U.S. Census Bureau, 2000).

Missouri has 114 counties plus the city of St. Louis, for which data are most always collected separately. In 2000, Missouri had an average population density of 81 residents per square mile (U.S. Census

Bureau, 2000). Many of the most populated areas in the state surround Missouri's major metropolitan areas of St. Louis and Jackson County. The counties with a population of 100,000 or more include Boone, Clay, Greene, Jackson, Jasper, St. Charles, and St. Louis (U.S. Census Bureau, 2000). The city of St. Louis also has a population of more than 100,000.

Racially and ethnically, Missouri's population is fairly homogeneous. In 2000, Whites constituted 85%; Blacks made up 11%; Hispanic or Latinos, 2%; and Asians, 1%, of the state's population. A small percentage of the population was American Indian or Alaska Native (0.4%), Native Hawaiian or Other Pacific Islander (0.1%), "some other race" (0.8%), or two or more races (1.5%) (U.S. Census Bureau, 2000).

In 1999, 11.7% of Missouri residents lived below the poverty level, which is slightly lower than the national poverty level of 12.4% (U.S. Census Bureau, 2000). Missouri's per capita income rose by 2.7% from $27,493 in 2000 to $28,221 in 2001 (Missouri Department of Economic Development, 2002). The average annual wage in Missouri in 2001 was $32,422; the average weekly wage was $623 (U.S. Department of Labor, 2002).

The unemployment rate in Missouri declined steadily from 1993 to 1999, from 6.5% to 3.4%. However, by 2002, the Missouri unemployment rate had increased to 5.5% (Missouri Department of Economic Development, 2002). The state's unemployment rate continues to be lower than the national average of 5.7%, as of October 2002 (U.S. Department of Labor, 2002).

The violent crime rate of Missouri decreased from 664 violent crimes per 100,000 residents in 1995 to a rate of 490 in 2000. Property crime also decreased from a 1995 rate of 4,456 property crimes per 100,000 residents to a rate of 4,037 in 2000 (The Disaster Center, 2000).

1.4 Missouri's Jails and Jail Population

The most recent Census of Jails (U.S. Bureau of Justice Statistics, August 2001) reports that in the year 1999, Missouri had 129 jail facilities, which housed 6,940 inmates. Missouri had a 38% increase in inmate population from 1993 to1999, whereas the overall U.S. increase in inmate population was 32%. Still, Missouri was one of only a few jurisdictions in the United States that did not double its inmate population from the jail census in 1983 to the most recent census in 1999. With a 78% jail occupancy rate, Missouri was also one of only

six states to have an occupancy rate below 80% (U.S. Bureau of Justice Statistics, August 2001).

The average daily population for Missouri jails in 1999 was 6,941. Missouri had 137 jail inmates per 100,000 residents, compared with a national average of 256 jail inmates per 100,000 U.S. residents. Four Missouri jails were under a court order to limit jail population due to crowding (U.S. Bureau of Justice Statistics, August 2001).

In 1999, Missouri jails confined 6,028 male inmates and 912 female inmates. Additionally, 2,881 of the inmates were White, 1,459 Black, 119 Hispanic, and 33 Other race, which included American Indians, Alaska Natives, Asians, Native Hawaiians, and other Pacific Islanders.

Identifying the need for treatment services is an important and necessary step in reducing substance use and criminality.

Seventeen Missouri jails, as of 1999, did not have policies or procedures relating to inmate mental health, although 57 jails provided mental health screening at intake, 33 provided alcohol counseling, 31 provided drug counseling, and 23 provided psychiatric evaluation. Furthermore, 636 inmates reported taking psychotropic medication, and 592 indicated that they received mental health therapy or counseling.

Corrections-based substance abuse treatment programs, which have been found to reduce substance use and criminal behavior among inmates being released, could play a significant role in reducing substance use and criminality statewide (Field, 1989). Therefore, identifying the need for treatment services is an important and necessary step in reducing substance use and criminality in the State of Missouri.

2. Study Design

This chapter describes the development of the interview instrument, the pilot test of the instrument, sample selection, data collection and processing, analytic methods, and the strengths and limitations of the study.

2.1 Interview Instrument Development

The interview was adapted from existing instruments that have been effective in diagnosing substance abuse and dependence in similar populations:

- Center for Substance Abuse Treatment (CSAT) Inmate Core Protocol Survey Form,
- Texas Commission on Alcohol and Drug Abuse (TCADA) prison survey,
- Louisiana Substance Abuse Treatment Needs Assessment Prison Survey, and
- Diagnostic Interview Schedule (DIS).

The instrument was programmed into a Computer-Assisted Personal Interview (CAPI) and modified to capture abuse and dependency criteria consistent with the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) criteria (American Psychiatric Association, 1994). Using CAPI technology offers several advantages: (1) the instrument is programmed on a laptop computer, which permits the use of complex skip patterns and facilitates the use of highly complex instruments that help reduce response errors; tailors questions to address very specialized concerns; and increases overall instrument efficiency; (2) the data are entered directly into the computer, avoiding data entry errors; (3) interviewers maintain computer files that reduce the chances of information being lost or disclosed; and (4) the data remain secure because only RTI project staff have access to the interview data once they have been transmitted by the interviewer(s).

The instrument included 12 modules covering the following topics:

- Demographics – age, race, gender, income, education, marital status;
- Substance use – prevalence of past month, past year, and lifetime use of tobacco, alcohol, inhalants, illicit drugs, and prescription drugs; intensity of use;
- Dependence and abuse diagnosis – prevalence of symptoms of dependence and abuse, need for treatment;
- Alcohol and drug treatment – treatment utilization, treatment history, reasons for not seeking treatment (i.e., barriers to treatment), willingness to receive treatment;
- Unmet treatment demand – unmet need for treatment;
- Criminal history – prevalence and incidence of arrest and crimes, time served, current offense, illegal income, money spent on drugs;
- Family and spouse/partners – behavioral characteristics of family members and spouse/partners, including alcohol and drug use and incarceration history;
- Peers/friends – behavioral characteristics of inmates' peers and friends, including alcohol and drug use, incarceration and arrest history;
- Physical health – self-assessment, diagnoses/problems, sexual activity, services received; and
- Mental health – self-assessment, diagnoses/problems, services received, symptoms of conditions, suicidality.

Importantly, the instrument was designed to capture data that reflect the pre-incarceration status of inmates.

Importantly, the instrument was designed to capture data that reflect the pre-incarceration status of inmates. For example, rather than asking inmates whether they had used a given drug in the past 12 months (which is how questions are commonly worded), inmates were asked if they had used a given drug in the *12 months prior* to being "locked up," and dates were given that framed the 12-month period before they were incarcerated. Because certain behaviors (such as criminal activity and drug use) are less likely to occur in correctional facilities, this emphasis on inmates' pre-incarceration status presents a truer picture of the inmates and reduces bias in the prevalence estimates and the data. For a copy of the instrument, please contact Christie

Lundy at Missouri's ADA (contact information appears on the Acknowledgments page).

Of particular value is the study's ability to generate information that can be compared with the data generated by the Missouri household telephone survey conducted in 2001-2002. Comparable sections of the household survey measure the following:

- the prevalence of tobacco, alcohol, and other drug use (i.e., marijuana, hallucinogens, powder cocaine, crack cocaine, heroin or other opiates, and amphetamine);
- the prevalence of problems associated with substance use;
- the prevalence of dependence on alcohol and other drugs;
- alcohol and other drug (AOD) treatment history; and
- AOD treatment needs and potential barriers to treatment.

For the Missouri household study, alcohol and other drug abuse and dependence were also based on DSM-IV criteria. In this report, we will compare the findings from the household and jail studies to determine similarities and differences between these two segments of the population.

2.2 Instrument Pilot Test

In September 2001, a pilot test of the interview instrument was conducted to determine whether the instrument and CAPI process would work accurately and efficiently with criminal offenders in the field. An experienced interviewer who was familiar with the instrument conducted interviews with five inmates in a jail facility. Very few problems were identified during pilot testing. Those encountered were addressed by the rewording of questions to make the intent clearer, by correcting several skip patterns, and by adding response options. In addition, the pilot test revealed that it took some inmates longer to complete the instrument than we had anticipated, an issue we addressed in staff training.

2.3 Sample Selection

The sample of jail inmates was drawn from four jails across the state in Greene County, Jackson County, Boone County, and St. Louis County. These sites were purposively selected to provide geographic

and demographic diversity. Male and female inmates who were at least 18 years of age and housed at the jails for less than 200 days were eligible for inclusion in the sample. Among inmates meeting the criteria, those who were deemed extremely dangerous or under medical or psychiatric supervision were excluded. In the larger jails, that is, St. Louis County and Jackson County, male inmates were randomly sampled. In Boone County and Greene County, all eligible males were approached to participate in the study. Given the smaller number of female inmates, sampling was not necessary in any of the jails. Data were collected over a 2-month period (November and December 2001). (See **Appendix A** for an analysis of the representativeness of the jail sample.)

2.4 Data Collection and Processing

A total of 15 field interviewers (FIs) were recruited for the study using RTI's National Interviewer File, a computerized file that contains data on interviewers who have worked for RTI on past or current projects in locations around the country. Interviewers were selected based on their previous experience as FIs and on their appropriateness for conducting interviews with jail inmates. It was important to select interviewers who were sensitive to the special issues and circumstances of jail inmates. Of the 15 interviewers, 6 were Black females, 7 were White females, 1 was a Black male, and 1 was a White male. The interviewers attended a 2-day training session in St. Louis, which was conducted by the RTI field supervisor and data collection task leader, who had extensive training experience.

An area in the jail was set aside for interviewing to ensure inmates' privacy while responding to the interview.

Following training, FIs began entering the jails to conduct interviews. Each of the four jails provided an escort who brought the inmate to the FI to begin the interviewing process. An area in the jail was set aside for interviewing to ensure inmates' privacy while responding to the interview. If the inmate was willing to participate, the FI would explain the study by outlining (1) the types of questions that would be asked, (2) the expected length of the interview, (3) the voluntary nature of participation, (4) the respondent's right to refuse to answer any questions, (5) the confidentiality of responses, (6) the intended use of the data, and (7) the fact that the inmate's legal status or eligibility for treatment would not be affected, positively or negatively, by participation in the interview. Additionally, $10 was deposited into the inmate's account upon completion of the interview.

When an inmate indicated that he or she wished to participate, the interviewer signed and dated the informed consent form, had the

Prevalence figures were computed for lifetime, past year, and past month use of alcohol, inhalants, and illicit drugs.

inmate place a check mark on the form, and offered the inmate a copy. To protect respondents' identities, inmates did not sign the consent forms. The interviewer's signature and the inmate's check mark indicated that the recipient understood the information and agreed to participate. The interviews were administered using CAPI technology, and RTI provided laptop computers. The interviewers read the questions to the respondents and recorded the answers directly into the computer.

At the end of each day, interviewers transmitted completed interviews and other information from their laptop computers to RTI's mainframe computer. Once all interview data were received, the information was compiled into a single Statistical Analysis System (SAS) data set for analysis.

2.5 Analytic Methods

Both descriptive and multivariate analyses were performed using SAS. We examined differences and similarities between the inmate and 2001/2002 household data in the area of substance use and treatment needs. Prevalence figures were computed for lifetime, past year, and past month use of alcohol, inhalants, and illicit drugs, including marijuana/hashish, hallucinogens, powder cocaine, crack cocaine, heroin/opiates, and amphetamine. We also estimated multivariate logistic regressions to identify characteristics associated with the use of these substances. The dependent variables were whether, in the past year, the inmate (1) reported being a heavy alcohol user and (2) reported any illicit drug use.

We then applied several criteria to substance users to identify those in need of treatment. Individuals who received treatment in the past year for abuse of alcohol or other drugs, those with symptoms of dependence or abuse, and persons exhibiting problem patterns of use were considered in need of treatment. In addition, some substance users with problem patterns, who did not meet the criteria for diagnosis of dependence or abuse, were flagged as being in need of intervention. Criteria for dependence and abuse were based on the DSM-IV.

To determine the characteristics of jail inmates in need of treatment, we conducted a multivariate logistic regression of whether the inmate was in need of treatment or intervention, and included demographic and socioeconomic measures as independent variables. We also prepared estimates of the percentages of inmates receiving formal and informal treatment services in the previous year. Barriers to

treatment were investigated from responses to survey questions on reasons that an inmate did not seek evaluation or treatment.

2.6 Strengths and Limitations of the Study

The major strength of this study is that it provides the State of Missouri with information about an under-studied segment of the population: jail inmates. With this information, the State will be better prepared to make decisions about providing appropriate treatment services to jail inmates. The State will also have information to help assess whether there is a need to design and implement treatment programs in jail facilities.

The major limitation of this study is that it measured behaviors based on self-reports, and some inmates may not have been forthcoming when responding to some of the interview questions, especially those of a sensitive nature. However, we have confidence in the data collected for several reasons:

The major strength of this study is that it provides the State of Missouri with information about an under-studied segment of the population: jail inmates.

1. There is extensive literature on the validity of self-report data, even when sensitive questions are being asked, that suggests such data can be collected in a valid and reliable fashion (Harrison, 1995; Rouse, Kozel, & Richards, 1985).

2. CAPI technology, which was employed in this study, has been proven to produce more valid results, likely because respondents believe the information they report is more secure (i.e., more difficult to access).

3. The proportion of inmates who reported indulging in behaviors, such as crime and drug use, was sufficiently high to suggest that inmates were not afraid to report truthfully.

Typically, under-reporting is more common than over-reporting in studies of this nature, so estimates presented in this report are likely to be conservative.

3. Characteristics of Missouri Jail Inmates

This chapter presents inmates' demographics and self-reports of criminal history, including number of arrests and number of crimes committed in their lifetime. It also provides descriptions of the inmates' physical and mental heath, as well as characteristics of their families and peers.

3.1 Demographic and Socioeconomic Characteristics

Four jails throughout the state—St. Louis County, Greene County, Jackson County, and Boone County—participated in the inmate interviews. The age and race of the inmates by jail are presented in **Table 3.1**.

For the male inmate sample in each jail, excluding Greene County, most inmates were aged 35 years or older. In the sample of males drawn from the Greene County jail, inmates were almost evenly divided across the three age categories. The majority of the male inmate sample in the St. Louis County and Jackson County jails (64% and 66%, respectively) were African American. In the Greene County and Boone County jails, the male sample was most likely to be White (72% and 58%, respectively). Less than 6% of the male inmates reported being Asian, American Indian, or Other race.

Forty percent or more of the female inmate sample in the St. Louis County and Greene County jails were between 25 and 34 years of age (40% and 43%, respectively). The majority of the female sample in the Jackson County (57%) and Boone County (52%) jails were aged 35 or older. Over half of the females (56%) in the St. Louis County jail sample were African American whereas females were most like to be White in the Greene County (89%) and Jackson County (51%) jails. The female sample from the Boone County jail had equal percentages of Whites and African Americans (44% for each). Less than 10% of the female inmates reported being Asian, American Indian, or Other race.

Data were collected from jails across the state in an attempt to represent the jail population in the state of Missouri. Subsequent analyses, therefore, present data aggregated across the four jails. For further analysis by jail site, please see Appendix B.

Table 3.1 Selected Demographic Characteristics of the Missouri Jail Inmate Sample by Site

	Males		Females	
Selected Characteristic	**n**	**%**	**n**	**%**
St. Louis County Jail Sample Total	146		52	
Age				
18–24	45	31	15	29
25–34	41	28	21	40
35+	60	41	16	31
Race				
White	46	32	18	35
African American	93	64	29	56
American Indian	0	0	2	4
Asian	0	0	1	2
Other	7	5	2	4
Greene County Jail Sample Total	88		37	
Age				
18–24	27	31	8	22
25–34	32	36	16	43
35+	29	33	13	35
Race				
White	63	72	33	89
African American	17	19	0	0
American Indian	4	5	2	5
Asian	0	0	0	0
Other	4	5	2	5
Boone County Jail Sample Total	52		23	
Age				
18–24	15	29	4	17
25–34	12	23	7	30
35+	25	48	12	52
Race				
White	30	58	10	44
African American	16	31	10	44
American Indian	2	4	2	9
Asian	1	2	0	0
Other	3	5	1	4
Jackson County Jail Sample Total	84		37	
Age				
18–24	24	29	6	16
25–34	23	27	10	27
35+	37	44	21	57
Race				
White	24	29	19	51
African American	55	66	16	43
American Indian	1	1	1	3
Asian	0	0	0	0
Other	4	5	1	3

Note: Percentages may not add to 100.0 due to rounding.

Source: Missouri Jail Inmate Survey, 2001.

More than half of the inmates reported annual household incomes at or below $20,000.

A total of 370 male inmates and 149 female inmates were interviewed (see **Table 3.2**). The largest percentage of the male (41%) and female (42%) inmates were 35 years or older. The racial make-up of the male inmate sample was 44% White, 49% African American, 2% American Indian, less than 1% Asian, and 4% Other race. The racial make-up of the female inmate sample was 54% White, 37% African American, 5% American Indian, less than 1% Asian, and 3% Other race. For all further analyses, American Indian, Asian, and Other race inmates were combined into an Other race category. The majority of both males (64%) and females (53%) reported never being married.

When asked where they resided at the time of their arrest, the majority of both male (90%) and female (87%) inmates reported living in a house, mobile home, or apartment. Three percent of the males and 7% of the females reported living in a hotel, dorm, group home, or on a military base. Approximately 5% of the inmates reported having no fixed residence at the time of their arrest. Approximately one-third (38%) of the inmates did not complete high school. Male inmates were more likely than female inmates to report being employed (either full- or part-time), 69% and 54%, respectively. More than half of the inmates reported annual household incomes at or below $20,000. (See **Appendix A** for an analysis of the representativeness of the jail sample.)

3.2 Criminal History

This section details the criminal history of the Missouri jail inmate sample, including lifetime arrests and number of crimes committed. It also presents information on inmates' physical and psychological health.

The mean number of reported lifetime arrests was 14.15 for all inmates, 15.36 for males and 11.18 for females (see **Table 3.3)**. The majority of inmates reported being arrested fewer than 10 times in their lifetime: 57% of the males and 71% of the females. Less than one-quarter of the inmates reported being arrested more than 21 times: 23% of the male and 15% of the female inmates.

Table 3.2 Demographic Characteristics of the Missouri Jail Inmate Sample

Selected Characteristic	Males		Females	
	n	%	n	%
Total	370		149	
Age				
18–24	111	30	33	22
25–34	108	29	54	36
35+	151	41	62	42
Race				
White	163	44	80	54
African American	181	49	55	37
American Indian	7	2	7	5
Asian	1	<1	1	<1
Other	16	4	5	3
Ethnicity: Hispanic/Latino	11	3	5	3
Marital Status				
Never married	237	64	79	53
Married[1]	24	6	18	12
Divorced	63	17	27	18
Separated	40	11	19	13
Widowed	5	1	6	4
Unknown	1	<1	0	0
Residence				
House, mobile home, or apartment	333	90	129	87
Hotel, dorm, group home, military base	12	3	10	7
Hospital, treatment facility	0	0	1	<1
Jail, boot camp	1	<1	0	0
Shelter	4	1	8	5
No fixed residence	13	4	8	5
Education				
Did not complete high school	141	38	56	38
High school graduate	153	41	47	32
Completed some college	69	19	40	27
College graduate	5	1	3	2
Advanced graduate	2	<1	2	1
Unknown	0	0	1	<1
Employment Status				
Working full-time	207	56	66	44
Working part-time	49	13	15	10
In military	0	0	0	0
Unemployed	75	20	42	28
Attending school	4	1	5	3
Disabled	19	5	9	6
Homemaker	1	<1	10	7
Retired	2	<1	0	0
Other	13	4	2	1
Annual Household Income				
Under $10,000	108	29	65	44
$10,000–$20,000	100	27	38	26
$20,001–$30,000	56	15	20	13
$30,001–$40,000	29	8	7	5
$40,001–$50,000	20	5	8	5
$50,001+	41	11	9	6
Unknown	16	4	2	1

[1] Includes common law marriages.

Source: Missouri Jail Inmate Survey, 2001.

Table 3.3 Number of Lifetime Arrests Reported by the Missouri Jail Inmate Sample

	Total		Males		Females	
Lifetime Arrests	**n**	**%**	**n**	**%**	**n**	**%**
1–5	185	36	107	29	78	52
6–10	131	25	103	28	28	19
11–20	95	18	75	21	20	13
21+	106	21	83	23	23	15
Mean Number	14.15		15.36		11.18	

Source: Missouri Jail Inmate Survey, 2001.

Inmates were also asked about the number of drug, property, and violent crimes they had committed, regardless of whether the crime resulted in an arrest (see **Table 3.4**). *Drug crimes* include trafficking, dealing, and possession. *Property crimes* include the following: burglary, arson, auto theft, forgery, fraud, larceny, and shoplifting. *Violent crimes* include murder, attempted murder, rape, robbery, and assault. Both male and female inmates were more likely to report committing drug crimes (68%) than property or violent crimes. In fact, almost half of both males (46%) and females (50%) reported committing more than 21 drug crimes in their lifetime. Property crime was reported with the second highest frequency. More than 60% of the male (61%) and female (64%) inmates reported committing a property crime. The *number* of property crimes, however, was much lower than the number of drug crimes reported. Violent crimes were reported with the lowest frequency for both males (40%) and females (26%), but males were more likely to report committing a violent crime than were females.

The type of crime that led to the inmates' current incarceration (instant offense) is presented in **Table 3.5**. More than a third of male inmates (39%) reported being incarcerated for having committed a violent crime, whereas females were most likely to report property crime (32%) as their instant offense.

Table 3.4 Number of Crimes Committed in Lifetime by the Missouri Jail Inmate Sample

	Total		Males		Females	
Crime	**n**	**%**	**n**	**%**	**n**	**%**
Drug Crimes[1]						
0	161	32	114	32	47	33
1–5	76	15	58	16	18	13
6–10	13	3	9	2	4	3
11–20	13	3	11	3	2	1
21+	235	47	164	46	71	50
Mean Number	333.13		322.22		360.49	
Property Crimes[2]						
0	198	39	144	39	54	36
1–5	157	30	104	28	53	36
6–10	34	7	28	8	6	4
11–20	31	6	23	6	8	5
21+	95	18	67	18	28	19
Mean Number	31.53		30.93		32.99	
Violent Crimes[3]						
0	329	64	219	60	110	74
1–5	132	26	101	27	31	21
6–10	21	4	20	5	1	<1
11–20	13	3	9	2	4	3
21+	22	4	19	5	3	2
Mean Number	6.04		6.74		4.34	

Note: Crimes reported did not necessarily result in an arrest.

[1] Drug crimes include trafficking, dealing, and possession.
[2] Property crimes include burglary, arson, auto theft, forgery, fraud, larceny, and shoplifting.
[3] Violent crimes include murder, attempted murder, rape, robbery, and assault.

Source: Missouri Jail Inmate Survey, 2001.

Table 3.5 Type of Instant Offense Reported by the Missouri Jail Inmate Sample

Instant Offense	Total (%)	Males (%)	Females (%)
Drug crime[1]	24	23	27
Property crime[2]	28	26	32
Violent crime[3]	34	39	24
Other crime[4]	14	12	17

Note: Instant offense was the offense that led to an inmate's current incarceration.

[1] Drug crimes include trafficking, dealing, and possession.
[2] Property crimes include burglary, arson, auto theft, forgery, fraud, larceny, and shoplifting.
[3] Violent crimes include murder, attempted murder, rape, robbery, and assault.
[4] Other crimes include crimes that are not defined as violent, property, or drug crimes; for example, resisting arrest and obstructing justice.

Source: Missouri Jail Inmate Survey, 2001.

3.3 Physical and Mental Health Status

This section details inmates' self-reports of their physical and mental health status. It also presents rates of mental health service utilization, mental health diagnosis, and psychological functioning scores.

Male inmates were more likely than females to report their physical health as being excellent or very good: 51% of males and 40% of females (see **Table 3.6**). Similarly, men reported their mental health as being considerably better than did their female counterparts: 43% of the men reported their mental health as excellent or very good compared with 31% of the women (see **Table 3.7**). Half of the female inmates reported having received mental health services from a medical professional compared with 33% of the males. Women were also more likely to report having received a mental health diagnosis from a medical professional (43%) than were men (29%).

Table 3.6 Physical Health Status of the Missouri Jail Inmate Sample

	Total		Males		Females	
Respondents' Rating of Their Physical Health	**n**	**%**	**n**	**%**	**n**	**%**
Excellent	132	26	106	29	26	18
Very good	116	22	83	22	33	22
Good	164	32	114	31	50	34
Fair	84	16	55	15	29	20
Poor	22	4	12	3	10	7

Source: Missouri Jail Inmate Survey, 2001.

Table 3.7 Mental Health Status of the Missouri Jail Inmate Sample

	Total		Males		Females	
Mental Health Status	**n**	**%**	**n**	**%**	**n**	**%**
Respondents' rating of their mental health						
Excellent	113	22	91	25	22	15
Very good	91	18	68	18	23	16
Good	149	29	108	29	41	28
Fair	119	23	75	20	44	30
Poor	44	8	26	7	18	12
Services and diagnosis received						
Mental health services from a medical professional	197	38	122	33	75	50
A mental health diagnosis from a medical professional	167	33	104	29	63	43

Source: Missouri Jail Inmate Survey, 2001.

To identify specific mental health problems affecting the inmates, single-item measures of mental health were explored. In response to each item, respondents indicated how often they experienced a certain feeling (e.g., anxiety). Responses ranged from "never" to "frequently" (1 = never, 2 = rarely, 3 = sometimes, 4 = frequently). The mean scores for the mental health problems are presented in **Table 3.8**.

Scores on each of the mental health items (excluding hallucinations) were above 2, indicating that inmates experienced these problems at least rarely (on average). Female scores were higher for all mental health problems when compared with the males. Scores for hallucinations were the lowest of all mental health problems: 1.44 for males and 1.40 for females.

Self-reports about suicide showed that female inmates were more likely to report serious thoughts of suicide when compared with male inmates, 1.53 and 1.39, respectively. However, males and females were equally likely to report suicide attempts.

Depression was measured using a seven-item version of the Center of Epidemiologic Studies Depression (CES-D) scale (Breslau, 1985). For the depression index score, responses to these seven items were summed to produce depression index scores ranging from 7 to 28. An inmate would respond by indicating how often he or she experienced each item: 1 = never, 2 = rarely, 3 = sometimes, 4 = frequently. The depression score for females (20.29) was higher than the depression score for males (17.57). This finding is consistent with females also being more likely to report poor mental health and to report higher levels of mental health symptoms.

Table 3.8 Mean Psychological Dysfunction Scores for the Missouri Jail Inmate Sample

Mental Health Measures	Total	Males	Females
General Mental Health Problems			
Anxiety/tension	2.96	2.90	3.11
Suspicion/distrustfulness	2.79	2.75	2.90
Difficulty imagining future	2.55	2.48	2.72
Upsetting memories/dreams	2.45	2.41	2.56
Arguments/fights	2.39	2.32	2.56
Inability to remember certain life periods	2.16	2.03	2.49
Hallucinations	1.43	1.44	1.40
Suicide			
Serious thoughts of suicide	1.43	1.39	1.53
Attempted suicide	1.20	1.20	1.18
Depression	18.35	17.57	20.29

Source: Missouri Jail Inmate Survey, 2001.

3.4 Family and Peer Characteristics

This section presents inmates' reports of alcohol, drug, and psychological problems among family members and friends. It also describes rates of incarceration for relatives, spouses, and friends.

When asked if any of their close relatives had ever had an alcohol, drug use, or psychological problem that was serious enough to warrant treatment, more than half of the inmates responded affirmatively: 57% of the males and 67% of the females (see **Table 3.9**). Additionally, 42% of the male inmates and 67% of the female inmates reported having a spouse or partner with an alcohol, drug, or psychological problem.

Male and female inmates were equally likely to report having a close relative who had been incarcerated: 44% and 46%, respectively. However, women were more than twice as likely as men to report having a spouse who had been incarcerated: 52% of the female inmates compared with 20% of the male inmates.

Inmates were asked to estimate the number of friends they had in the year prior to being incarcerated and to describe specific behavioral characteristics of those friends. The majority of inmates reported having friends in the year prior to incarceration: 84% of the males and 76% of the females.

Table 3.9 Alcohol, Drug, and Psychological Problems and Incarceration History of Family Members of the Missouri Jail Inmate Sample

	Total		Males		Females	
Percentage of Inmates Who Reported Having...	**n**	**%**	**n**	**%**	**n**	**%**
A close relative with an alcohol, drug, or psychological problem	311	60	211	57	100	67
A spouse or partner with an alcohol, drug, or psychological problem	255	49	155	42	100	67
A close relative who has been incarcerated	229	44	161	44	68	46
A spouse or partner who has been incarcerated	151	29	74	20	77	52

Source: Missouri Jail Inmate Survey, 2001.

Additionally, the majority of inmates reported that their friends had an alcohol or drug problem (see **Table 3.10**). For example, 34% of the males and 39% of the females reported that most of their friends (more than 75%) had an alcohol or drug problem. Additionally, a substantial percentage of both male and female inmates reported that

Table 3.10 Peer Characteristics Reported by the Missouri Jail Inmate Sample

Peer Characteristic	Total		Males		Females	
	n	%	n	%	n	%
Percentage of Peers with an Alcohol or Drug Problem?*						
0–25	168	42	125	43	43	39
26–50	62	16	45	16	17	15
51–75	28	7	21	7	7	6
76–100	142	36	99	34	43	39
Percentage of Peers Who Have Been Arrested?**						
0–25	123	31	81	28	42	38
26–50	92	23	68	24	24	22
51–75	26	7	16	6	10	9
76–100	154	39	121	42	33	30

* Missing cases = 119; the majority of missing cases involve inmates who reported having no friends (n=96); the remaining cases are missing responses.
** Missing cases = 124; the majority of missing cases involve inmates who reported having no friends (n=96); the remaining cases are missing responses.

Source: Missouri Jail Inmate Survey, 2001.

more than half of their friends had been arrested, 48% and 39%, respectively.

3.5 Summary

Key findings presented in this chapter include the following:

- The sample is largely White and African American: 49% of the males and 37% of the females reported being African American; 44% of the males and 54% of the females reported being White.
- Over half of the sample reported having never been married (64% males, 53% females).
- Prior to incarceration, 56% of the male inmates and 44% of the female inmates reported working full time; however, the majority of the sample had an annual income of less than $20,000.
- Thirty-eight percent of the male and female inmates did not complete high school.
- Over two-thirds of both the male and female inmates reported committing drug crimes in their lifetime.

- Male inmates (51%) were more likely to report being in very good or excellent physical health compared with female inmates (40%).
- Female inmates reported more mental health problems and suicidal ideations than male inmates.
- Over half of the inmates reported having a close relative with an alcohol, drug, or psychological problem.
- Over half of the inmates reporting having peers with an alcohol, drug, or psychological problem.
- More than two-thirds of the inmates reported having peers who have been arrested.

4. Prevalence of Substance Use

This chapter presents descriptive statistics and multivariate analyses of inmates' self-reports of tobacco, alcohol, inhalant, and illicit drug use and examines the relationship between substance use and age, and substance use and race. It also presents comparisons between inmates and household respondents' self-reported substance use. (See **Appendix B** for an analysis of substance use by site.)

4.1 Licit Substance Use: Tobacco, Alcohol, and Inhalant Use

4.1.1 Tobacco

To derive estimates of heavy alcohol use, inmates were asked about the quantity and frequency of their alcohol use in the year and month prior to incarceration.

Inmates were asked whether they had used tobacco (including cigarettes, smokeless tobacco, and cigars) in their lifetime, in the year prior to incarceration, and in the month prior to incarceration (see **Table 4.1)**. The majority of jail inmates (95% of males and 89% of females) reported having used a tobacco product at least once in their lifetime. When asked about use in the month prior to incarceration, 70% of both male and female inmates reported having used tobacco.

4.1.2 Alcohol

Inmates provided information on their lifetime, past year, and past month use of alcohol (see **Table 4.1**). Almost all inmates reported having used alcohol in their lifetime: 96% of the males and 93% of the females. Many also reported using alcohol in the year (82%) and month (66%) prior to incarceration.

To derive estimates of heavy alcohol use, inmates were asked about the quantity and frequency of their alcohol use in the year and month prior to incarceration. Past year heavy alcohol use is defined as weekly consumption of four or more drinks in a 24-hour period for females; for males, it is defined as weekly consumption of five or more drinks in a 24-hour period. Past month heavy alcohol use is defined as the consumption of four or more drinks on four or more days during a single month for females; for males, it is defined as five or more drinks on four or more days during a single month. Heavy alcohol use was more likely to be reported by male inmates than by female inmates in both the year and month prior to incarceration; for example, 48% of the males and 34% of the females reported heavy alcohol use in the month prior to incarceration.

4.1.3 Inhalants

Inhalant use among the inmates was relatively rare (see **Table 4.1**). Fourteen percent of the male and female inmates reported having ever tried inhalants. Less than 2% of the inmates reported recent use of inhalants, that is, in the year or month prior to incarceration.

Table 4.1 Prevalence of Licit Substance Use (Tobacco, Alcohol, and Inhalants) by the Missouri Jail Inmate Sample

	Lifetime (%)			Year Prior to Incarceration (%)			Month Prior to Incarceration (%)		
Licit Substance	**Total**	**Males**	**Females**	**Total**	**Males**	**Females**	**Total**	**Males**	**Females**
Tobacco[1]	93	95	89	78	79	73	70	70	70
Alcohol	95	96	93	82	86	72	66	71	54
Heavy alcohol use [2]	–	–	–	54	58	45	44	48	34
Inhalants	14	14	14	1	<1	2	1	0	2

[1] Tobacco includes cigarettes, smokeless tobacco, and cigars.
[2] Past year heavy alcohol use is defined as weekly consumption of four or more drinks in a 24-hour period for females and weekly consumption of five or more drinks in a 24-hour period for males. Past month heavy alcohol use is defined as the consumption of four or more drinks on four or more days during a single month for females, and five or more drinks on four or more days during a single month for males.

Source: Missouri Jail Inmate Survey, 2001.

4.2 Illicit Drug Use

Inmates' self-reports of illicit drug use show high levels of use for both male and female inmates (see **Table 4.2**). Over 90% of the inmates (95% of the males and 92% of the females) reported having used an illicit drug in their lifetime, and three-quarters reported use in the year prior to incarceration. The majority of inmates also reported using drugs in the month prior to their incarceration: 68% of the males and 64% of the females.

4.2.1 Marijuana

Marijuana was the drug that inmates were most likely to report using in their lifetime (92%) as well as in the year (61%) and month (53%) prior to incarceration. Males were more likely than females to report marijuana use during these three time periods. For example, 57% of the males and 44% of the females reported marijuana use in the month prior to incarceration (see **Table 4.2**).

4.2.2 Powder Cocaine

After marijuana, inmates were most likely to report using powder cocaine: more than half (57%) reported lifetime use. Use in the month prior to incarceration was less prevalent, with 14% of the males and 8% of the females reporting use during that time period (see **Table 4.2**).

4.2.3 Hallucinogens

Over half of the male and female inmates reported having used hallucinogens in their lifetime. Males were more likely to report use in the month prior to incarceration than were female inmates, 11% and 5%, respectively (see **Table 4.2**).

4.2.4 Crack Cocaine

Almost half of the inmates (46%) reported using crack cocaine in their lifetime (see **Table 4.2**). Excluding marijuana, inmates used crack at higher rates than any other drug during the month prior to their incarceration: 19% of the males and 23% of the females. For all time periods, females were more likely to report crack use than were their male counterparts.

4.2.5 Amphetamine

Thirty-eight percent of the males and 45% of the females reported lifetime amphetamine use (see **Table 4.2)**. Use in the month prior to incarceration was much lower: 14% of the male inmates and 19% of the female inmates reported use during that time period.

4.2.6 Heroin/Opiates

Approximately one-quarter of the male (28%) and female (26%) inmates reported using heroin in their lifetime. However, less than 10% reported use in the year or month prior to incarceration (see **Table 4.2**).

Table 4.2 Prevalence of Illicit Drugs by the Missouri Jail Inmate Sample

	Lifetime (%)			Year Prior to Incarceration (%)			Month Prior to Incarceration (%)		
Illicit Drug	**Total**	**Males**	**Females**	**Total**	**Males**	**Females**	**Total**	**Males**	**Females**
Any illicit drug[1]	94	95	92	75	76	72	67	68	64
Marijuana	92	94	89	61	64	52	53	57	44
Powder cocaine	57	57	58	20	22	16	12	14	8
Hallucinogens	51	51	51	14	15	12	10	11	5
Crack cocaine	46	43	53	26	24	30	20	19	23
Amphetamine	40	38	45	21	20	26	15	14	19
Heroin/opiates	27	28	26	9	9	9	7	6	8

[1] Any illicit drug includes marijuana, powder cocaine, hallucinogens, crack cocaine, amphetamine, and heroin/opiates.

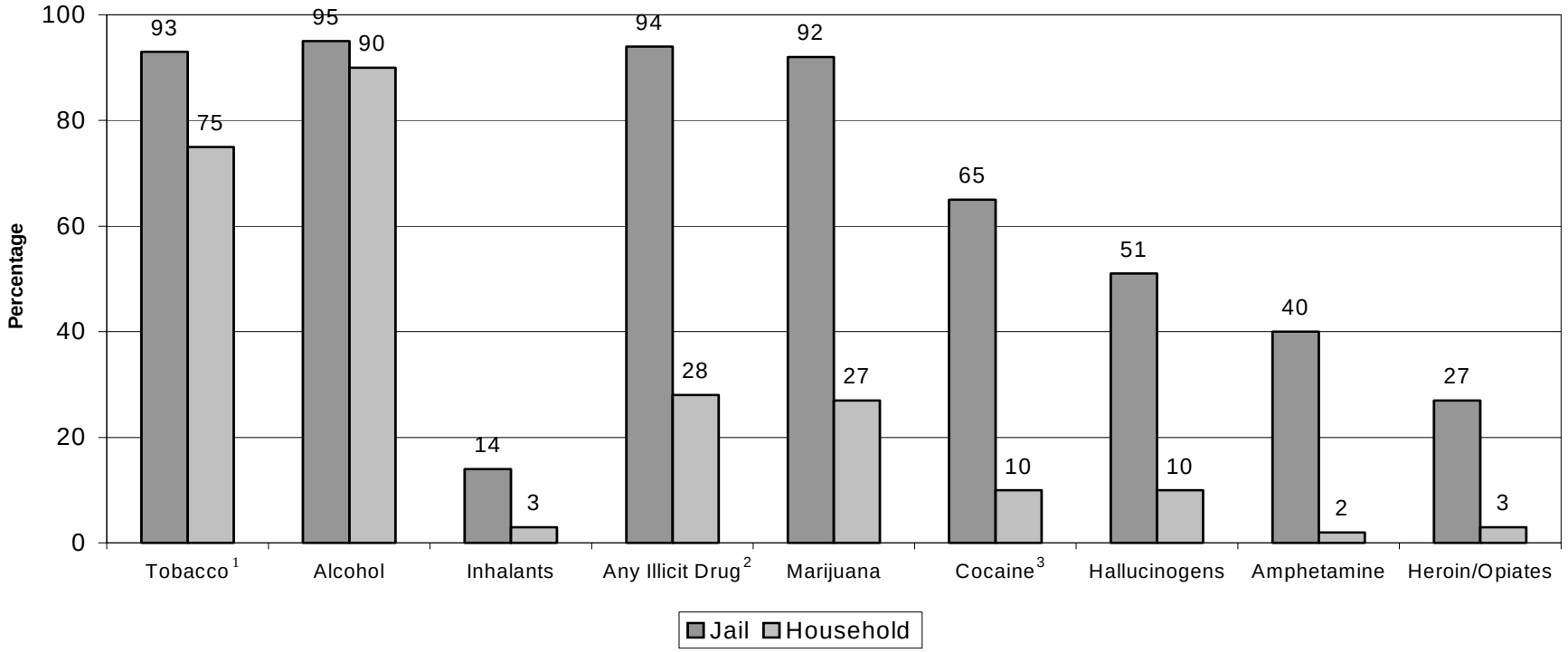
Source: Missouri Jail Inmate Survey, 2001.

4.2.7 Comparisons of Substance Use among Jail Inmates and Household Respondents

Self-reports of lifetime substance use by jail inmates and household respondents show major differences, most notably in the use of illicit drugs (see **Figure 4.1**). For the licit substances, that is, tobacco, alcohol, and inhalants, differences between inmates and household respondents were not as great. In terms of lifetime tobacco use, almost all of the inmates (93%) reported use compared with 75% of the household respondents (note: for inmates, lifetime tobacco use included use of cigarettes, smokeless tobacco, and cigars; for household respondents, lifetime tobacco use included use of cigarettes only). Lifetime alcohol use was reported by 95% of the inmates and 90% of the household respondents. Only 3% of the household respondents reported having ever tried inhalants compared with 14% of the inmates.

Having ever tried an illicit drug was reported by almost all the jail inmates (94%) compared with a little over a quarter of household respondents (28%). We find similarly high reported use of cocaine, hallucinogens, amphetamine, and heroin/opiates among inmates compared to household respondents. In fact, for each drug, inmates' reported use was more than three times greater than household respondents' reported use. For example, marijuana use was reported by 92% of the inmates compared with 27% of the household respondents. And more than half of the inmates reported having ever tried cocaine and hallucinogens, whereas 10% of the household respondents reported having tried these drugs.

Figure 4.1 Prevalence of Lifetime Substance Use by the Missouri Jail Inmate Sample and the Missouri Household Survey Respondents



[1] Tobacco includes cigarettes, smokeless tobacco, and cigars. For the Household Survey, tobacco includes cigarettes only.
[2] Any illicit drug includes marijuana, cocaine, hallucinogens, amphetamine, and heroin/opiates. For the Household Survey, illicit drug also includes inhalants.
[3] Cocaine includes powder cocaine and crack cocaine.

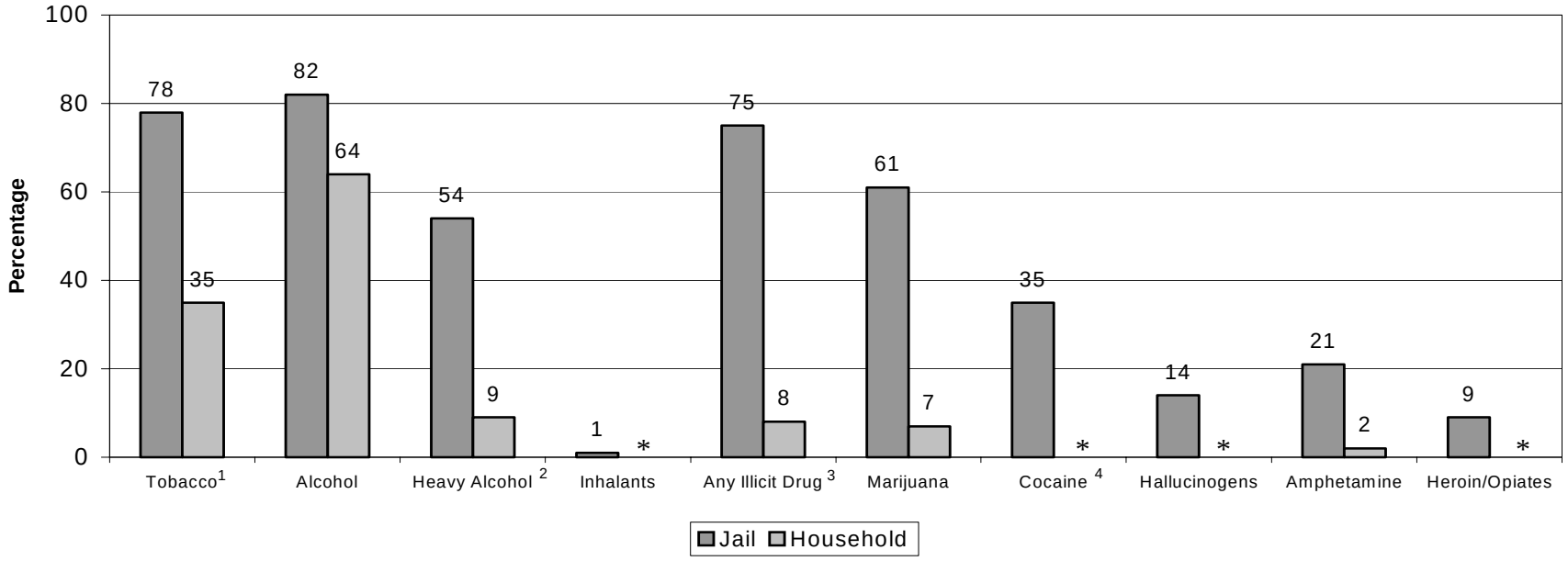
Source: Missouri Jail Inmate Survey, 2001; and Missouri Household Residents, 2001-2002.

Reported substance use in the past year also shows large differences between inmates and household respondents (see **Figure 4.2**).

More than three-quarters of the inmates (78%) reported using tobacco in the past year compared with one-third (35%) of the household respondents. Alcohol use, including heavy alcohol use, in the past year was also more likely to be reported by inmates. For example, 82% of the inmates reported using alcohol in the past year compared with 64% of the household respondents. Inhalant use was reported by 1% of the inmates and less than 1% of the household respondents.

Three-quarters of the inmates reported using an illicit drug in the past year compared with 8% of the household respondents. Less than 10% of the household respondents reported using *any* illicit drug in the year prior to incarceration. This is in sharp contrast to reported illicit drug use among inmates. For example, 61% of the inmates reported using marijuana, and more than one-third (35%) reported cocaine use in the past year.

Figure 4.2 Prevalence of Past Year Substance Use by the Missouri Jail Inmate Sample and the Missouri Household Survey Respondents



* < 1%

[1] Tobacco includes cigarettes, smokeless tobacco, and cigars.

[2] Past year heavy alcohol use is defined as weekly consumption of four or more drinks in a 24-hour period for females and weekly consumption of five or more drinks in a 24-hour period for males.

[3] Any illicit drug includes marijuana, cocaine, hallucinogens, amphetamine, and heroin/opiates. For the Household Survey, any illicit drug also includes inhalants.

[4] Cocaine includes powder cocaine and crack cocaine.

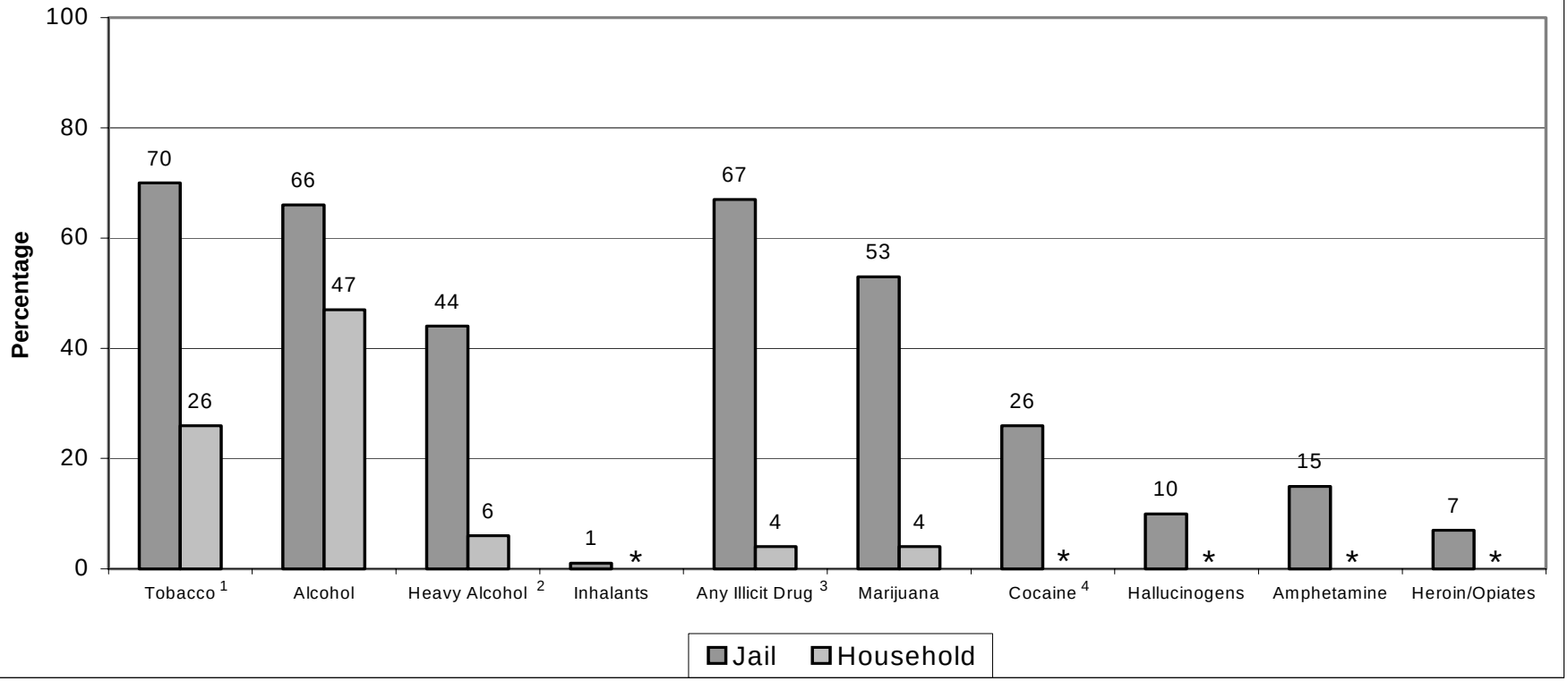
Source: Missouri Jail Inmate Survey, 2001; and Missouri Household Survey, 2001-2002.

Differences in reported substance use in the past month continued to show substantial differences between jail inmates and household respondents (see **Figure 4.3**).

Seventy percent of the inmates continued to report tobacco use in the past month whereas one-quarter (26%) of the household respondents reported use during that time. Alcohol use was reported by 66% of the inmates and 47% of the household respondents. Past month heavy alcohol use, however, was substantially higher for inmates (44%) than household respondents (6%). Inhalant use in the past month was reported by 1% of the inmates and less than 1% of the household respondents.

Over two-thirds of the inmates (67%) reported illicit drug use in the past month compared with 4% of the household respondents. In fact, less than 5% of the household respondents reported using any type of illicit drug during the past month. Inmates' reports of past month use, on the other hand, ranged from 7% for heroin/opiate use to 53% for marijuana use.

Figure 4.3 Prevalence of Past Month Substance Use by the Missouri Jail Inmate Sample and the Missouri Household Survey Respondents



* < 1%

[1] Tobacco includes cigarettes, smokeless tobacco, and cigars. For the Household Survey, tobacco includes cigarettes only.

[2] Past month heavy alcohol use is defined as weekly consumption of four or more drinks in a 24-hour period for females and weekly consumption of five or more drinks in a 24-hour period for males.

[3] Any illicit drug includes marijuana, cocaine, hallucinogens, amphetamine, and heroin/opiates. For the Household Survey, any illicit drug also includes inhalants.

[4] Cocaine includes powder cocaine and crack cocaine.

Source: Missouri Jail Inmate Survey, 2001; and Missouri Household Survey, 2001-2002.

4.3 Substance Use and Age

Lifetime use of marijuana showed a decrease with age, with 18- to 24-year-old male inmates reporting the highest levels of use.

Data on the average age of first use of licit and illicit substances for males and females shows that the age of onset for tobacco, alcohol, inhalants, marijuana, and hallucinogens ranged from 14 to 18 years of age (see **Table 4.3**). The age of onset for powder and crack cocaine, heroin/opiates, and amphetamine was higher, ranging from 20 to 26 years of age. Males and females were quite similar in their reports of age of first use.

Table 4.3 Average Age of First Use of Licit and Illicit Substances by the Missouri Jail Inmate Sample

	Age (in years)	
Substance	**Males**	**Females**
Tobacco[1]	14	15
Alcohol	14	16
Inhalants	16	17
Marijuana	14	15
Hallucinogens	18	18
Powder cocaine	20	20
Crack cocaine	26	26
Heroin/opiates	24	24
Amphetamine	20	20

[1] Tobacco includes cigarettes, smokeless tobacco, and cigars.

Source: Missouri Jail Inmate Survey, 2001.

We also examined the prevalence of lifetime use of each substance for males and females by three age groups: 18 to 24 years, 25 to 34 years, and 35 years and older (see **Table 4.4**). Among male inmates, we see very little difference in reported use of tobacco, alcohol, any illicit drug, and hallucinogens across the age categories. For powder and crack cocaine, heroin, and amphetamine, inmates aged 35 years or older were more likely to report use compared with younger male inmates. For example, 64% of the men aged 35 years or older reported using crack cocaine in their lifetime compared with 14% of the 18- to 24-year-old men. Lifetime use of marijuana showed a decrease with age, with 18- to 24-year-old male inmates reporting the highest levels of use. Inhalant use was reported with the highest frequency by 25- to 34-year-old men.

Reported lifetime use of substances among female inmates shows similar patterns, for the most part, to those for male inmate use. Slightly different age-related patterns, however, were seen in self-reports

of inhalants, hallucinogens, and heroin. Inhalant use for females decreased over the age categories, with younger inmates (18- to 24-year-olds) reporting the highest rates of use in the year prior to incarceration. Reported use of hallucinogens declined with age and reported use of heroin was the same for women aged 25 to 34 and 35 and older.

Table 4.4 Prevalence of Lifetime Licit and Illicit Substance Use by the Missouri Jail Inmate Sample, by Age

	Males (%)				Females (%)			
Substance	**Total**	**18–24 yrs**	**25–34 yrs**	**35+ yrs**	**Total**	**18–24 yrs**	**25–34 yrs**	**35+ yrs**
Tobacco[1]	95	96	95	94	89	88	89	90
Alcohol	96	96	96	95	93	97	93	92
Inhalants	14	14	20	11	15	24	11	13
Any illicit drug[2]	95	99	96	91	92	97	89	92
Marijuana	94	99	95	89	89	97	85	87
Hallucinogens	51	53	47	51	51	58	52	47
Powder cocaine	57	41	60	66	58	48	57	63
Crack cocaine	43	14	43	64	53	24	59	63
Heroin/opiates	28	25	24	32	26	12	30	29
Amphetamine	38	32	39	42	45	42	44	47

[1] Tobacco includes cigarettes, smokeless tobacco, and cigars.
[2] Any illicit drug includes marijuana, powder cocaine, hallucinogens, crack cocaine, amphetamine, and heroin/opiates.

Source: Missouri Jail Inmate Survey, 2001.

Data on the prevalence of substance use in the year prior to incarceration for males and females and for the three age groups defined above are presented in **Table 4.5**. For marijuana (for both males and females) and hallucinogens (males), inmates aged less than 35 years were more likely to report use in the year prior to incarceration than were inmates over 35 years of age. Reported use of crack cocaine showed a different pattern, with older inmates (35 years or older) more likely to report use in the year prior to incarceration. For men, alcohol was also more likely to be reported by younger inmates, but for women there was little difference across age categories. Other substances that were reported at approximately equal rates across age categories included tobacco (for males); inhalants (for males and females); powder cocaine (for males); and heroin (for males). Tobacco and amphetamine use in the year prior to incarceration was lowest for women aged 25 to 34 years. Reports of powder cocaine use decreased by age for female inmates. Use of any illicit drug was reported at equal rates for female inmates but showed a decline with age for male inmates.

Table 4.5 Prevalence of Licit and Illicit Substance Use in the Year Prior to Incarceration by the Missouri Jail Inmate Sample, by Age

	Males (%)				Females (%)			
Substance	**Total**	**18-24 yrs**	**25-34 yrs**	**35+ yrs**	**Total**	**18-24 yrs**	**25-34 yrs**	**35+ yrs**
Tobacco[1]	79	80	78	80	73	76	67	77
Alcohol	86	92	87	81	72	76	69	73
Inhalants	<1	1	0	0	2	0	4	2
Any illicit drug[2]	76	92	75	65	72	70	72	73
Marijuana	64	88	67	45	52	67	52	45
Hallucinogens	15	33	9	7	12*	–	–	–
Powder cocaine	22	21	21	23	16	21	19	11
Crack cocaine	24	9	25	35	30	15	31	37
Heroin/opiates	9	7	9	10	9*	–	–	–
Amphetamine	20	22	25	14	26	27	20	29

[1] Tobacco includes cigarettes, smokeless tobacco, and cigars.
[2] Any illicit drug includes marijuana, powder cocaine, hallucinogens, crack cocaine, amphetamine, and heroin/opiates.
* There were fewer than 20 female inmates.
Source: Missouri Jail Inmate Survey, 2001.

4.4 Substance Use and Race

Overall, African American inmates reported the lowest level of lifetime substance use when compared with White inmates and inmates of Other races.

Data on the prevalence of lifetime and past year use of substances showed differences by race (presented for male and female inmates combined in **Table 4.6**). When we examine lifetime use, we see differences in self-reported use by race for the following drugs: inhalants, hallucinogens, powder cocaine, heroin/opiates, and amphetamine. For each of these drugs, White inmates were more likely to report lifetime use than were African American inmates and those of Other races. Overall, African American inmates reported the lowest level of lifetime substance use when compared with White inmates and inmates of Other races.

Similar findings were seen for reported substance use in the year prior to incarceration. For most substances (i.e., excluding inhalants, marijuana, hallucinogens, and crack cocaine), White inmates were more likely to report use than were African American inmates and those of Other races. Inmates of Other races were more likely to report inhalant, marijuana, and hallucinogen use in the year prior to incarceration. Self-reported use of crack cocaine was approximately the same for African Americans (28%) and Whites (26%) and lower for inmates of Other races (19%).

Table 4.6 Prevalence of Licit and Illicit Substance Use in Lifetime and Year Prior to Incarceration by the Missouri Jail Inmate Sample, by Race

	Lifetime (%)			Year Prior to Incarceration (%)		
Substance	**African Amer.**	**White**	**Other**	**African Amer.**	**White**	**Other**
Tobacco[1]	92	95	95	72	83	78
Alcohol	93	98	95	78	86	78
Inhalants	5	24	16	0	1	5
Any illicit drug	94	94	92	73	78	68
Marijuana	92	93	92	60	62	65
Hallucinogen	31	70	54	10	17	27
Powder cocaine	37	74	65	11	29	22
Crack cocaine	43	49	46	28	26	19
Heroin/opiates	20	34	27	6	12	11
Amphetamine	11	67	49	3	38	30

[1] Tobacco includes cigarettes, smokeless tobacco, and cigars.

Source: Missouri Jail Inmate Survey, 2001.

4.5 Prescription Drug Use

Inmates were asked if they had ever used prescription drugs both medically and nonmedically. To determine medical use, they were asked if they had ever been *prescribed* prescription drugs for a medical problem. When describing use of these drugs by prescription, we will refer to *medical use*. To ascertain *nonmedical use*, inmates were asked if they had used prescription drugs *without* a doctor's prescription, or had used them for different purposes or in different amounts than were prescribed.

Pain killers constitute the category of medical prescription drug use most likely to be reported by inmates.

Pain killers constitute the category of medical prescription drug use most likely to be reported by inmates: 48% of the males and 63% of the females reported use in their lifetime (see **Table 4.7**). Approximately one-quarter or less of the inmates reported lifetime medical use of the other prescription drugs. Note that for all prescription drugs, female inmates were more likely to report use than were their male counterparts.

Medical prescription drug use in the year prior to incarceration follows a pattern similar to that of lifetime medical use: stimulant, tranquilizer, and sedative use were low for both male and female inmates: less than 16% (see **Table 4.7**). Pain killers continued to be the prescription drug most often reported by inmates: 19% of the males and 30% of the females reported use in the year prior to incarceration. Again, female inmates were more likely to report use for all categories of prescription drugs.

Table 4.7 Prevalence of Medical Use of Prescription Drugs by the Missouri Jail Inmate Sample

	Lifetime (%)			Year Prior to Incarceration (%)		
Prescription Drug	**Total**	**Males**	**Females**	**Total**	**Males**	**Females**
Stimulants[1]	7	6	10	2	2	3
Tranquilizers[2]	14	11	21	6	4	12
Sedatives[3]	19	16	26	9	6	15
Pain killers[4]	52	48	63	22	19	30

[1] Stimulants include diet pills, amphetamine, Ritalin, and Benzedrine.
[2] Tranquilizers include nerve pills, Valium, and Xanax.
[3] Sedatives include barbiturates, sleeping pills, Quaaludes, and phenobarbital.
[4] Pain killers include opiates, codeine, morphine, methadone, Demerol, and Vicodin.

Source: Missouri Jail Inmate Survey, 2001.

4.5.1 Prescription Drug Use and Age

In examining the relationship between age and prescription drug use in the year prior to incarceration for male inmates, we see that use of sedatives and pain killers was much more likely to be reported by inmates aged 35 years or older (see **Table 4.8**) than by younger inmates. For example, in the year prior to incarceration, one-quarter of the inmates aged 35 or older reported using prescription pain killers compared with 14% of the 18- to 24-year-olds. Female use of sedatives showed a steady increase in reported use for each of the three age categories: 6% of the females aged 18 to 24 years, 15% of those aged 25 to 34, and 21% of the female inmates 35 years or older reported using prescription sedatives in the year prior to incarceration. On the other hand, we do not see differences in female inmates' reports of pain killers by age. More than one-quarter of females in each of the three age categories reported using pain killers in the year prior to incarceration. There were too few cases to analyze stimulant and tranquilizer use by age (fewer than 20 male inmates and fewer than 20 female inmates reported use in the year prior to incarceration).

Table 4.8 Prevalence of Prescription Drug Use by the Missouri Jail Inmate Sample in the Year Prior to Incarceration, by Age

	Males (%)				Females (%)			
Prescription Drug	**Total**	**18–24**	**25–34**	**35+**	**Total**	**18–24**	**25–34**	**35+**
Stimulants[1]	2*	–	–	–	3*	–	–	–
Tranquilizers[2]	4*	–	–	–	12*	–	–	–
Sedatives[3]	6	3	5	11	15	6	15	21
Pain killers[4]	19	14	16	25	30	30	26	32

* There were fewer than 20 inmates.

[1] Stimulants include barbiturates, sleeping pills, Quaaludes, and phenobarbital.
[2] Tranquilizers include nerve pills, Valium, and Xanax.
[3] Stimulants include diet pills, amphetamine, Ritalin, and Benzedrine.
[4] Pain killers include opiates, codeine, morphine, methadone, Demerol, and Vicodin.

Source: Missouri Jail Inmate Survey, 2001.

4.5.2 Nonmedical Prescription Drug Use

As noted above, nonmedical prescription drug use refers to the use of prescription drugs without a doctor's prescription, or using them for different purposes or in different amounts than were prescribed. **Table 4.9** presents the self-reports of lifetime and past year nonmedical prescription drug use. Approximately 20% of the inmates reported nonmedical use of stimulants, tranquilizers, and sedatives in their lifetime. More than one-third reported nonmedical use of pain killers. Inmates reported lower nonmedical use of all prescription drugs in the year before their incarceration when compared with lifetime use.

Table 4.9 Prevalence of Nonmedical Use of Prescription Drugs by the Missouri Jail Inmate Sample

	Lifetime (%)			Year Prior to Incarceration (%)		
Prescription Drug	**Total**	**Males**	**Females**	**Total**	**Males**	**Females**
Stimulants[1]	18	18	18	10	9	11
Tranquilizers[2]	20	20	18	13	14	12
Sedatives[3]	19	19	20	11	11	13
Pain killers[4]	37	37	36	25	25	27

Note: Nonmedical use is defined as the use of prescription drugs without a doctor's prescription, or using them for different purposes or in different amounts than were prescribed.

[1] Stimulants include diet pills, amphetamine, Ritalin, and Benzedrine.
[2] Tranquilizers include nerve pills, Valium, and Xanax.
[3] Sedatives include barbiturates, sleeping pills, Quaaludes, and phenobarbital.
[4] Pain killers include opiates, codeine, morphine, methadone, Demerol, and Vicodin.

Source: Missouri Jail Inmate Survey, 2001.

Little difference was found in reported nonmedical use of stimulants and sedatives in the year prior to incarceration across the three age categories for male inmates (see **Table 4.10**). For tranquilizers, inmates aged 25 to 34 reported the highest lifetime use (18%) compared with inmates aged 18 to 24 years (15%) and those 35 or older (10%). And, for pain killers, male inmates aged 18 to 24 reported the highest rate of use (31%) compared with inmates aged 25 to 34 (23%) and those aged 35 or older (22%).

More than 10% of the female inmates reported nonmedical use of stimulants, tranquilizers, and sedatives (note: fewer than 20 females reported use of these drugs, so further analysis was not possible). Twenty-seven percent of the females reported nonmedical use of pain killers in the year prior to incarceration, with the youngest females reporting the highest rate of use (30%).

Table 4.10 Prevalence of Nonmedical Use of Prescription Drugs by the Missouri Jail Inmate Sample in the Year Prior to Incarceration, by Age

	Males (%)				Females (%)			
Prescription Drug	**Total**	**18–24 yrs**	**25–34 yrs**	**35+ yrs**	**Total**	**18–24 yrs**	**25–34 yrs**	**35+ yrs**
Stimulants[1]	9	10	9	9	11*	–	–	–
Tranquilizers[2]	14	15	18	10	12*	–	–	–
Sedatives[3]	11	9	12	11	13*	–	–	–
Pain killers[4]	25	31	23	22	27	30	24	27

Note: Nonmedical use of prescription drugs is defined as the use of prescription drugs without a doctor's prescription, or using them for different purposes or in different amounts than were prescribed.

* There were fewer than 20 female inmates.

[1] Stimulants include diet pills, amphetamine, Ritalin, and Benzedrine.
[2] Tranquilizers include nerve pills, Valium, and Xanax.
[3] Sedatives include barbiturates, sleeping pills, Quaaludes, and phenobarbital.
[4] Pain killers include opiates, codeine, morphine, methadone, Demerol, and Vicodin.

Source: Missouri Jail Inmate Survey, 2001.

4.6 Multivariate Analysis

4.6.1 Logistic Regression Analyses

To determine what factors are independently associated with alcohol and illicit drug use, we ran two multivariate logistic regressions by gender (a total of four models). The dependent variables were (1) reported heavy alcohol use in the year prior to incarceration (defined as weekly consumption of four or more drinks in a 24-hour period for females and weekly consumption of five or more drinks in a 24-hour period for males) and (2) reported illicit drug use in the year prior to incarceration. Approximately 50 independent variables were inserted into the models, including demographic items (such as age, race, gender, education, employment status, and marital status), criminal history indicators, family and peer characteristics, measures of physical and mental health, and alcohol and drug use. The models were then put through forward-entry procedure in which variables were entered one at a time, based on a designated significance value of 0.05. The procedure ceased when SAS determined that there were no additional variables that would explain a significant portion of the variance in the dependent variable.

Several variables (site, age, race, education, and time incarcerated in the year prior to the current incarceration) were added back into the models because of interest in their relationship to the dependent variables. Site, race, and education were coded as dummy variables. The reference category for site is St. Louis County, for race it

is White, and for education it is non-high school graduate. Reference categories for race and site were based on sample size. Whites were the predominant racial group for all inmates, and St. Louis County jail inmates made up the largest segment of the sample. Age (measured in years) and time incarcerated in the year prior to incarceration (measured in days) were coded as continuous variables. [Note: Additional information regarding the regression models is included in the footnotes for each table.]

4.6.2 Findings Related to Heavy Alcohol Use among Male Inmates

Two variables were found to significantly increase the likelihood of heavy alcohol use among male inmates: the use of powder cocaine in the year prior to incarceration and having suicidal thoughts.

Two variables were found to significantly increase the likelihood of heavy alcohol use among male inmates: the use of powder cocaine in the year prior to incarceration and having suicidal thoughts (see **Table 4.11**). Inmates who reported using powder cocaine in the year prior to incarceration were 2 times more likely to report heavy alcohol use than were inmates who did not report powder cocaine use in the past year. Men who reported having suicidal thoughts were 5 times more likely to report heavy alcohol use than were inmates who did not report suicidal ideation.

Three variables were associated with a significant *decrease* in the likelihood of reported heavy alcohol use: employment, number of children, and being a victim of sexual abuse. Male inmates who reported being a full-time homemaker, being in school, being retired, or disabled were 3 times (1.0/.32) *less* likely to report heavy alcohol use compared with male inmates who were employed full- or part-time. Males who reported having 3 to 5 children were approximately 2 times (1.0/.45) *less* likely to report heavy alcohol use compared with inmates who did not report having children. Those inmates who reported being a victim of sexual abuse were also significantly less likely to report heavy alcohol use compared with inmates who did not experience sexual abuse.

4.6.3 Findings Related to Illicit Drug Use among Male Inmates

A number of variables were found to significantly increase the likelihood of illicit drug use among males: drug crimes, heavy alcohol use, and having a spouse/partner with an alcohol, drug, or psychological problem (see **Table 4.11**). For each drug crime reported in the year prior to incarceration, reported illicit drug use increased. In other words, inmates who reported committing more drug crimes generally were more likely to be using illicit drugs. Also, inmates who reported heavy alcohol use in the year prior to incarceration were approximately 2 times

Table 4.11 Logistic Regression Findings for the Male Missouri Jail Inmate Sample: Heavy Alcohol Use and Illicit Drug Use in the Year Prior to Incarceration

Variable	Heavy Alcohol Use‡		Illicit Drug Use	
	Odds Ratio	95% Confidence Interval	Odds Ratio	95% Confidence Interval
Greene County jail inmates[1]	1.03	.52 – 2.03	1.49	.59 – 3.79
Jackson County jail inmates[1]	.65	.34 – 1.26	.66	.31 – 1.40
Boone County jail inmates[1]	1.02	.44 – 2.35	.64	.25 – 1.62
Age[2]	1.02	.99– 1.05	.92***	.89 – .96
High school graduate	.99	.58 – 1.67	.81	.42 – 1.57
African American[1]	1.29	.72 – 2.30	1.19	.61 – 2.32
Other race[1, 3]	1.04	.36 – 3.02	.48	.12 – 1.89
Time incarcerated (py[2,4])	.99	.99 – 1.00	1.00	.99 – 1.00
Number of drug crimes (py[2,4])	–	–	1.01**	1.003 – 1.011
Powder cocaine use (py[4])	2.28*	1.17 – 4.46	–	–
Heavy alcohol use (py[4])	–	–	1.99*	1.06 - 3.65
Spouse/partner with an alcohol, drug, or psychological problem	–	–	2.40**	1.23 – 4.67
Employment – Other[1]	.32*	.13 – .79	–	–
3 to 5 children[1]	.45*	.23 – .88	–	–
Suicidal thoughts	5.63***	2.21 – 14.33	–	–
Victim of sexual abuse	.41*	.18 – .90	–	–

* $p<0.05$, ** $p<0.01$, *** $p<0.001$.

Note: Odds ratios are presented for independent categorical and continuous variables. *Categorical* variables are dichotomous and have been designated a reference category (e.g., the reference category for reported powder cocaine use in the year prior to incarceration is no reported powder cocaine use during that time). *Continuous* variables are not designated a reference category but instead have a range of responses (e.g., age measured in years). Odds ratios that are found to be significant and below 1.0 are associated with a *decrease* in likelihood, whereas odds ratios that are found to be significant and above 1.0 are associated with an *increase* in likelihood.

Odds ratios indicate the likelihood that the outcome of the model (e.g., that an inmate will be a heavy alcohol user) will occur if an inmate reports an independent variable (e.g., powder cocaine use) associated with that odds ratio. In the model above, inmates who reported using powder cocaine in the year prior to incarceration were 2.28 times more likely to also be heavy alcohol users than inmates who did not report powder cocaine use in the year prior to incarceration. The odds ratios for continuous variables indicate the likelihood that the outcome of the model will occur if an inmate presents a one-unit increase in the continuous independent variable associated with that odds ratio. For example, the odds ratio for the number of drug crimes, which is continuous, indicates that for each drug crime committed in the year prior to incarceration, there was a 1.01 increase in odds of that inmate using illicit drugs during that time.

‡ Past year heavy alcohol use for males is defined as weekly consumption of five or more drinks in a 24-hour period.

[1] Reference categories for multilevel categorical variables are: Jail inmates = St. Louis County inmates; Race = White; Employment = Full/Part-time; and Number of children = None.

[2] Ages ranged from 18 to 80 years; time incarcerated ranged from 0 to 365 days; and number of drug crimes ranged from 0 to 500.

[3] There were fewer than 20 cases in this category, so findings should be interpreted cautiously.

[4] py connotes the year prior to incarceration.

Source: Missouri Jail Inmate Survey, 2001.

more likely to report illicit drug use compared with inmates who did not report heavy alcohol use. We also found that inmates who reported having a spouse or partner with an alcohol, drug, or psychological problem were 2 times more likely to report illicit drug use compared with inmates who did not report having a partner with these problems.

Age was found to significantly *decrease* the likelihood of reporting illicit drug use; that is, for each increase in age (measured in years) the reports of illicit drug use decreased by a factor of one.

4.6.4 Findings Related to Heavy Alcohol Use among Female Inmates

Several variables significantly increased the likelihood of reported heavy alcohol use among females: a relative with an alcohol, drug, or psychological problem; a spouse/partner with an alcohol, drug, or psychological problem; residence; and arguments (see **Table 4.12**). Inmates who reported having a relative with an alcohol, drug, or psychological problem were three times more likely to report heavy alcohol use than were inmates whose relatives did not have an alcohol, drug, or psychological problem. Similarly, females who reported having a spouse or partner with an alcohol, drug, or psychological problem were almost six times more likely to report heavy alcohol use compared with inmates who did not report having a partner with these problems. We also found that women who reported living in hospitals, jails, or shelters, or having no fixed residence were four times more likely to report heavy alcohol use than were women who lived in a house, mobile home, or apartment. Inmates who reported getting into arguments or fights either sometimes or frequently in the year prior to incarceration were three times more likely to report heavy alcohol use than were females who reported never or rarely getting into arguments or fights.

One variable was found to significantly decrease the likelihood of heavy alcohol use: site. Female inmates from the Jackson County jail were less likely than those from the St. Louis County jail to report being heavy alcohol users in the year prior to incarceration.

4.6.5 Findings Related to Illicit Drug Use among Female Inmates

Two variables were significantly related to an increase in reported illicit drug use: a spouse with an alcohol, drug, or psychological problem and getting into arguments or fights with other people (see **Table 4.12)**. Female inmates who reported having a spouse

with the problems listed above were more than four times more likely to report illicit drug use than were inmates who did not have a spouse with such problems. Inmates who reported getting into arguments or fights either sometimes or frequently in the year prior to incarceration were almost four times more likely to report illicit drug use than were females who reported never or rarely getting into arguments or fights.

Table 4.12 Logistic Regression Findings for the Female Missouri Jail Inmate Sample: Reported Heavy Alcohol Use and Illicit Drug Use in the Year Prior to Incarceration

	Heavy Alcohol Use‡		Illicit Drug Use	
Variable	**Odds Ratio**	**95% Confidence Interval**	**Odds Ratio**	**95% Confidence Interval**
Greene County jail inmates[1]	.57	.15 – 2.11	.14*	.02 – .90
Jackson County jail inmates[1]	.22*	.06 – .79	.48	.11 – 2.11
Boone County jail inmates[1]	1.46	.37 – 5.73	1.23	.27 – 5.62
Age[2]	.99	.94 – 1.05	1.00	.94 – 1.07
High school graduate	1.07	.41 – 2.78	1.72	.52 – 5.73
African American[1]	1.10	.39 – 3.32	.58	.16 – 2.10
Other race[1, 3]	.22	.04 – 1.16	.47	.08 – 2.81
Time incarcerated (py[2,4])	.99	.99 – 1.00	1.00	.99 – 1.01
Relative with an alcohol, drug, or psychological problem	3.21*	1.23 – 8.39	–	–
Spouse with an alcohol, drug, or psychological problem	5.56**	1.83 – 16.93	4.32*	1.22 – 15.40
Residence (py[4])	4.28**	1.56 – 11.73	–	–
Arguments (py[4])	3.26*	1.27 – 8.37	3.68*	1.18 – 11.47

* $p<0.05$, ** $p<0.01$, *** $p<0.001$.

Note: Odds ratios are presented for independent categorical and continuous variables. *Categorical* variables are dichotomous and have been designated a reference category (e.g., the reference category for reported powder cocaine use in the year prior to incarceration is no reported powder cocaine use during that time). *Continuous* variables are not designated a reference category but instead have a range of responses (e.g., age measured in years). Odds ratios that are found to be significant and below 1.0 are associated with a *decrease* in likelihood, whereas odds ratios that are found to be significant and above 1.0 are associated with an *increase* in likelihood.

Odds ratios indicate the likelihood that the outcome of the model (e.g., that an inmate will be a heavy alcohol user) will occur if an inmate reports an independent variable (e.g., having a relative with an alcohol, drug, or psychological problem) associated with that odds ratio. In the model above, inmates who reported having a relative with an alcohol, drug, or psychological problem were 3.21 times more likely to also be heavy alcohol users than inmates who did not report having a relative with such problems.

‡ Past year heavy alcohol use for females is defined as weekly consumption of four or more drinks in a 24-hour period.

[1] Reference categories for multilevel categorical variables are: Jail inmates = St. Louis County inmates and Race = White.
[2] Ages ranged from 18 to 55 years, and time incarcerated ranged from 0 to 365 days.
[3] There were fewer than 20 cases in this category, so findings should be interpreted cautiously.
[4] py connotes the year prior to incarceration.

Source: Missouri Jail Inmate Survey, 2001.

One variable—site—was found to be significantly related to a decrease in the likelihood of illicit drug use. Female inmates from the Greene County jail were less likely to report illicit drug use in the year prior to incarceration compared with female inmates from the St. Louis County jail.

4.7 Summary

Key findings from this chapter are as follows:

- The majority of jail inmates (95% of males and 89% of females) reported using a tobacco product at least once in their lifetime.
- Almost all inmates reported having used alcohol in their lifetime: 96% of the males and 93% of the females. Many also reported using alcohol in the year (82%) and month (66%) prior to incarceration.
- Fourteen percent of the male and female inmates reported having ever tried inhalants. Less than 2% of the inmates reported recent use, that is, in the year or month prior to incarceration.
- Over 90% of the inmates (95% of the males and 92% of the females) reported having used an illicit drug in their lifetime, and three-quarters reported use in the year prior to incarceration. The majority of inmates also reported using drugs in the month prior to their incarceration: 68% of the males and 64% of the females.
- Marijuana was the drug that inmates were most likely to report using in their lifetime (92%) as well as in the year (61%) and month (53%) prior to incarceration. Males were more likely than females to report marijuana use during their lifetime, as well as in the year and month prior to incarceration.
- More than half (57%) of the inmates reported lifetime use of powder cocaine. Use in the month prior to incarceration was less prevalent, with 14% of the males and 8% of the females reporting use during that time period.
- Over half of the male and female inmates reported having used hallucinogens in their lifetime. Males were more likely to report use in the month prior to incarceration than were female inmates, 11% and 5%, respectively.
- Almost half of the inmates (46%) reported using crack cocaine in their lifetime.

- Thirty-eight percent of the males and 45% of the females reported lifetime amphetamine use. Use in the month prior to incarceration was much lower: 14% of the male inmates and 19% of the female inmates reported use during that time period.

- Approximately one-quarter of the male (28%) and female (26%) inmates reported using heroin in their lifetime. However, less than 10% reported use in the year or month prior to incarceration.

- Lifetime tobacco use was reported at similar rates by inmates and household respondents. Past month tobacco use, however, was substantially higher for inmates.

- Lifetime alcohol use was reported at similar rates by inmates and household respondents. Inmates were much more likely to report past year and past month use of alcohol.

- Heavy alcohol use was substantially higher for inmates than for household respondents in both the past year and past month.

- Lifetime inhalant use was higher for inmates, but past year and past month use was reported by 1% or less of both inmates and household respondents.

- Almost all the jail inmates (94%) reported having ever tried an illicit drug compared with a little over a quarter of household respondents (28%).

- Inmates reported high lifetime rates of cocaine, hallucinogens, amphetamine, and heroin/opiates use compared with household respondents. For example, over half of the inmates (51%) reported having ever tried hallucinogens compared with 10% of the household respondents.

- Three-quarters of the inmates reported using an illicit drug in the past year compared with 8% of the household respondents.

- Over two-thirds of the inmates (67%) reported illicit drug use in the past month compared with 4% of the household respondents. In fact, less than 5% of the household respondents reported using any illicit drug during the past month. Inmates' reports of past month use, on the other hand, ranged from 7% for heroin/opiate use to 53% for marijuana use.

- Multivariate logistic regression models identified a number of variables that increased the likelihood of male inmates' past year

heavy alcohol use, including powder cocaine use and suicidal ideations. Factors that decreased the likelihood of heavy alcohol use among males included being unemployed (that is, being a homemaker, being in school, being retired or disabled), having three to five children, and having been a victim of sexual abuse.

- Multivariate logistic regression models identified a number of variables that increased the likelihood of male inmates' past year *illicit drug use*, including drug crimes committed in the year prior to incarceration and having a spouse or partner with an alcohol, drug, or psychological problem. Age was found to be associated with a *decrease* in the likelihood of reported illicit drug use: older male inmates were less likely to report illicit drug use in the year prior to incarceration.

- Multivariate logistic regression models identified a number of variables that increased the likelihood of female inmates' past year *heavy alcohol use*, including reporting having a relative with an alcohol, drug, or psychological problem; having a spouse or partner with an alcohol, drug, or psychological problem; residing in a hospital, jail, or shelter or having no fixed address in the year prior to incarceration; and reports of getting into arguments or fights sometime or frequently in the year prior to incarceration. One factor, site, *decreased* the likelihood of heavy alcohol use among females: female inmates from Jackson County were less likely to report heavy alcohol use compared with female inmates from St. Louis County.

- Multivariate logistic regression models identified a number of variables that increased the likelihood of female inmates' past year *illicit drug use*, including having a spouse or partner with an alcohol, drug, or psychological problem and reports of getting into arguments or fights sometime or frequently in the year prior to incarceration. One factor, site, *decreased* the likelihood of heavy alcohol use: female inmates from Greene County were less likely to report heavy alcohol use compared with female inmates from St. Louis County.

5. Substance Use Problems and Need for Alcohol or Drug Treatment or Intervention

This chapter presents the percentages of jail inmates with lifetime and past year substance use problems and estimates the number of inmates in need of alcohol and drug treatment or intervention in the year prior to incarceration. It includes an analysis of factors related to the need for treatment or intervention in an attempt to examine salient factors associated with treatment need. This information is compared with similar adult data for the 2001/2002 Missouri household survey respondents.

Dependency and abuse criteria (based on DSM-IV) are presented for alcohol, any illicit drug, and alcohol *or* any illicit drug. Inhalants have been included with core illicit drugs in this chapter because, although not necessarily illicit substances, they are illegal to abuse in most states, and their use carries serious health consequences.

Dependence and abuse are mutually exclusive categories; if a person meets the diagnostic criteria for dependence, he or she cannot also be diagnosed as an abuser. (See **Appendix C** for a complete description of the DSM-IV criteria of dependence and abuse.) To meet lifetime diagnostic criteria for substance *dependence*, an inmate had to have reported three or more of the following dependence symptoms, as defined by DSM-IV (see **Table 5.1**), at least once in the inmate's lifetime:

- Developed tolerance to substance
- Had withdrawal symptoms
- Used substance more often or in larger amounts than intended
- Unsuccessful attempts to quit, cut down, or control use
- Great deal of time getting/using/getting over effects
- Interference with important activities
- Caused physical/emotional problems

For an inmate to meet lifetime diagnostic criteria for substance *abuse*, he or she must *not* meet the criteria for dependence and must have reported one or more of the following abuse symptoms, as defined by DSM-IV, during his or her lifetime:

- Failure to meet role obligations
- Used in hazardous situations
- Recurrent substance-related legal problems
- Continued use despite recurrent social/interpersonal problems

For an inmate to meet past year DSM-IV diagnostic criteria for substance *dependence*, three or more dependence symptoms had to have been reported in the year prior to incarceration; to meet past year DSM-IV diagnostic criteria for substance *abuse*, the inmate must *not* meet the criteria for dependence and must report one or more abuse symptoms.

5.1 Problems Associated with Alcohol or Illicit Drug Use

This section presents the percentages of Missouri jail inmates who reported problems associated with their use of alcohol, illicit drugs, and alcohol or illicit drugs; both in their lifetime and in the year prior to incarceration. (See **Appendix B** for an analysis of substance use dependence and abuse by site.)

5.1.1 Alcohol

More than half of the male inmates (52%) and 42% of the female inmates met the criteria for lifetime alcohol dependence (see **Table 5.1**). More than one-third of the males and one-quarter of the females were also dependent in the year prior to incarceration. When inmates were asked about the type of dependence symptoms that were associated with their alcohol use, they were most likely to report *used substance more often or in larger amounts than intended*. This substance use symptom was highest for both lifetime (61%) and past year alcohol use (43%).

More than half of the male inmates (52%) and 42% of the female inmates met the criteria for lifetime alcohol dependence.

Twenty-seven percent of the males and 18% of the females met the criteria for lifetime abuse of alcohol. In the year prior to incarceration, fewer inmates met the criteria for alcohol abuse: 20% of the males and 9% of the females. Among the symptoms associated with lifetime alcohol abuse, *used in hazardous situations* was reported with the highest frequency by both males (76%) and females (58%). More than half of the inmates (55%) also reported this symptom in the year prior to incarceration. The second most commonly reported lifetime alcohol abuse symptom for both males and females was *continued use despite recurrent social/interpersonal problems.* This symptom and *used in hazardous situations* occurred with the greatest frequency in the year prior to incarceration.

Table 5.1 Prevalence of Lifetime and Past Year Alcohol Use Symptoms among the Missouri Jail Inmate Sample

	Alcohol Use					
	Lifetime (%)			Year Prior to Incarceration (%)		
Diagnosis/Symptom	**Total**	**Males**	**Female**	**Total**	**Males**	**Females**
Dependence Diagnosis	49	52	42	33	35	27
Dependence Symptoms						
Developed tolerance to substance	44	45	39	30	32	26
Had withdrawal symptoms	33	32	35	21	21	20
Used substance more often or in larger amounts than intended	61	64	54	43	45	37
Unsuccessful attempts to quit, cut down, or control use	39	41	32	28	30	23
Great deal of time getting/using/getting over effects	37	40	30	23	25	17
Interference with important activities	26	28	22	20	22	14
Caused physical/emotional problems	40	42	33	35	38	29
Abuse Diagnosis	24	27	18	17	20	9
Abuse Symptoms						
Failure to meet role obligations	40	42	36	21	23	18
Used in hazardous situations	71	76	58	55	61	40
Recurrent substance-related legal problems	32	35	24	13	14	10
Continued use despite recurrent social/ interpersonal problems	55	59	46	33	37	24

Note: For an inmate to meet lifetime diagnostic criteria for substance *dependence*, three or more of the dependence symptoms listed above had to have been reported at least once in the inmate's lifetime. To meet lifetime diagnostic criteria for substance *abuse*, the inmate must *not* meet the criteria for dependence and must have reported one or more of the abuse symptoms listed above during his or her lifetime. For an inmate to meet past year DSM-IV diagnostic criteria for substance *dependence*, three or more of the dependence symptoms listed above had to have been reported in the year prior to incarceration. To meet past year DSM-IV diagnostic criteria for substance *abuse*, the inmate must *not* meet the criteria for dependence and must report one or more of the abuse symptoms listed above. Note that dependence and abuse are mutually exclusive categories: If a person meets the diagnostic criteria for dependence, he or she cannot also be diagnosed as an abuser.

Source: Missouri Jail Inmate Survey, 2001.

5.1.2 Any Illicit Drugs

Sixty percent of the inmates met the criteria for lifetime dependence on illicit drugs: 57% of the males and 66% of the females (see **Table 5.2**). In the year prior to incarceration, females were also more likely to meet the criteria for illicit drug dependence: 47% of the females compared with 40% of the males.

Used substance more often or in larger amounts than intended was the most commonly reported dependence-related symptom associated with both lifetime (61%) and past year (43%) drug use. Fifty

percent or more of the inmates also reported the following dependence-related symptom in their lifetime: *developed tolerance to substance; unsuccessful attempts to quit, cut down, or control use; great deal of time getting/using/getting over effects*; and *caused physical/emotional problems*. Females were more likely to report each of the symptoms associated with illicit drug dependence than their male counterparts.

Sixteen percent of the male inmates and 7% of the female inmates met the criteria for lifetime abuse of any illicit drug. The abuse-related symptom reported with the highest frequency for both males and females was *used in hazardous situations*. In the year prior to incarceration, 12% of the males and 5% of the females met the criteria for abuse of any illicit drug. As seen with lifetime abuse, *used in hazardous situations* was the abuse-related symptom reported with the highest frequency.

Table 5.2 Prevalence of Lifetime and Past Year Illicit Drug Use Symptoms among the Missouri Jail Inmate Sample

	Any Illicit Drug Use					
	Lifetime (%)			Year Prior to Incarceration (%)		
Diagnosis/Symptom	**Total**	**Males**	**Female**	**Total**	**Males**	**Females**
Dependence Diagnosis	60	57	66	42	40	47
Dependence Symptoms						
Developed tolerance to substance	54	53	55	38	37	42
Had withdrawal symptoms	31	29	35	22	20	28
Used substance more often or in larger amounts than intended	61	59	64	43	41	48
Unsuccessful attempts to quit, cut down, or control use	50	46	58	29	27	35
Great deal of time getting/using/getting over effects	56	54	62	39	36	45
Interference with important activities	41	38	48	30	28	36
Caused physical/emotional problems	55	52	64	38	35	43
Abuse Diagnosis	13	16	7	10	12	5
Abuse Symptoms						
Failure to meet role obligations	49	46	54	31	29	36
Used in hazardous situations	69	70	65	53	55	50
Recurrent substance-related legal problems	43	42	46	36	34	42
Continued use despite recurrent social/ interpersonal problems	48	47	52	36	33	44

Note: For an inmate to meet lifetime diagnostic criteria for substance *dependence*, three or more of the dependence symptoms listed above had to have been reported at least once in the inmate's lifetime. To meet lifetime diagnostic criteria for substance *abuse*, the inmate must *not* meet the criteria for dependence and must have reported one or more of the abuse symptoms listed above during his or her lifetime. For an inmate to meet past year DSM-IV diagnostic criteria for substance *dependence*, three or more of the dependence symptoms listed above had to have been reported in the year prior to incarceration. To meet past year DSM-IV diagnostic criteria for substance *abuse*, the inmate must *not* meet the criteria for dependence and must report one or more of the abuse symptoms listed above. Note that dependence and abuse are mutually exclusive categories: if a person meets the diagnostic criteria for dependence, he or she cannot also be diagnosed as an abuser.

Source: Missouri Jail Inmate Survey, 2001.

5.1.3 Alcohol or Any Illicit Drug

For this analysis, inmates who reported experiencing problems with alcohol *or* any illicit drug were combined. Seventy-one percent of the inmates met the criteria for lifetime dependence on alcohol *or* illicit drugs (see **Table 5.3**). The lifetime dependence-related symptom reported with the highest frequency for both males and females was *used substance more often or in larger amounts than intended.* Each of the other dependence-related symptoms was reported by at least 49% of the inmates.

When we examine dependence in the last year, we find that over half of the inmates met the criteria for dependence on alcohol *or* illicit drugs: 52% of the males and 56% of the females. Over one-third of the inmates reported experiencing at least one of the dependence-related symptoms in the year prior to incarceration.

Twenty percent of the male inmates and 12% of the female inmates met the criteria for lifetime alcohol *or* illicit drug abuse. The symptom associated with abuse that was reported with the greatest frequency for both males and females was *used in hazardous situations*. More than half of the inmates reported at least one of the symptoms associated with lifetime abuse. Similar patterns were found for abuse in the year prior to incarceration. For example, males were more likely than females to meet the criteria for abuse. Additionally, *used in hazardous situations* was the symptom reported with the greatest frequency in the past year.

Table 5.3 Prevalence of Lifetime and Past Year Alcohol or Any Illicit Drug Use Symptoms among the Missouri Jail Inmate Sample

	Alcohol or Any Illicit Drug Use					
	Lifetime (%)			Year Prior to Incarceration (%)		
Diagnosis/Symptom	**Total**	**Males**	**Females**	**Total**	**Males**	**Females**
Dependence Diagnosis	71	70	72	53	52	56
Dependence Symptoms						
Developed tolerance to substance	66	66	66	50	49	52
Had withdrawal symptoms	49	48	51	36	34	40
Used substance more often or in larger amounts than intended	80	81	78	63	63	62
Unsuccessful attempts to quit, cut down, or control use	64	63	66	44	43	47
Great deal of time getting/using/getting over effects	66	64	69	50	49	51
Interference with important activities	49	47	54	39	37	42
Caused physical/emotional problems	65	63	70	52	51	53
Abuse Diagnosis	18	20	12	13	16	7
Abuse Symptoms						
Failure to meet role obligations	59	57	63	40	38	44
Used in hazardous situations	86	89	78	73	77	62
Recurrent substance-related legal problems	58	59	56	43	42	47
Continued use despite recurrent social/interpersonal problems	71	72	70	53	52	54

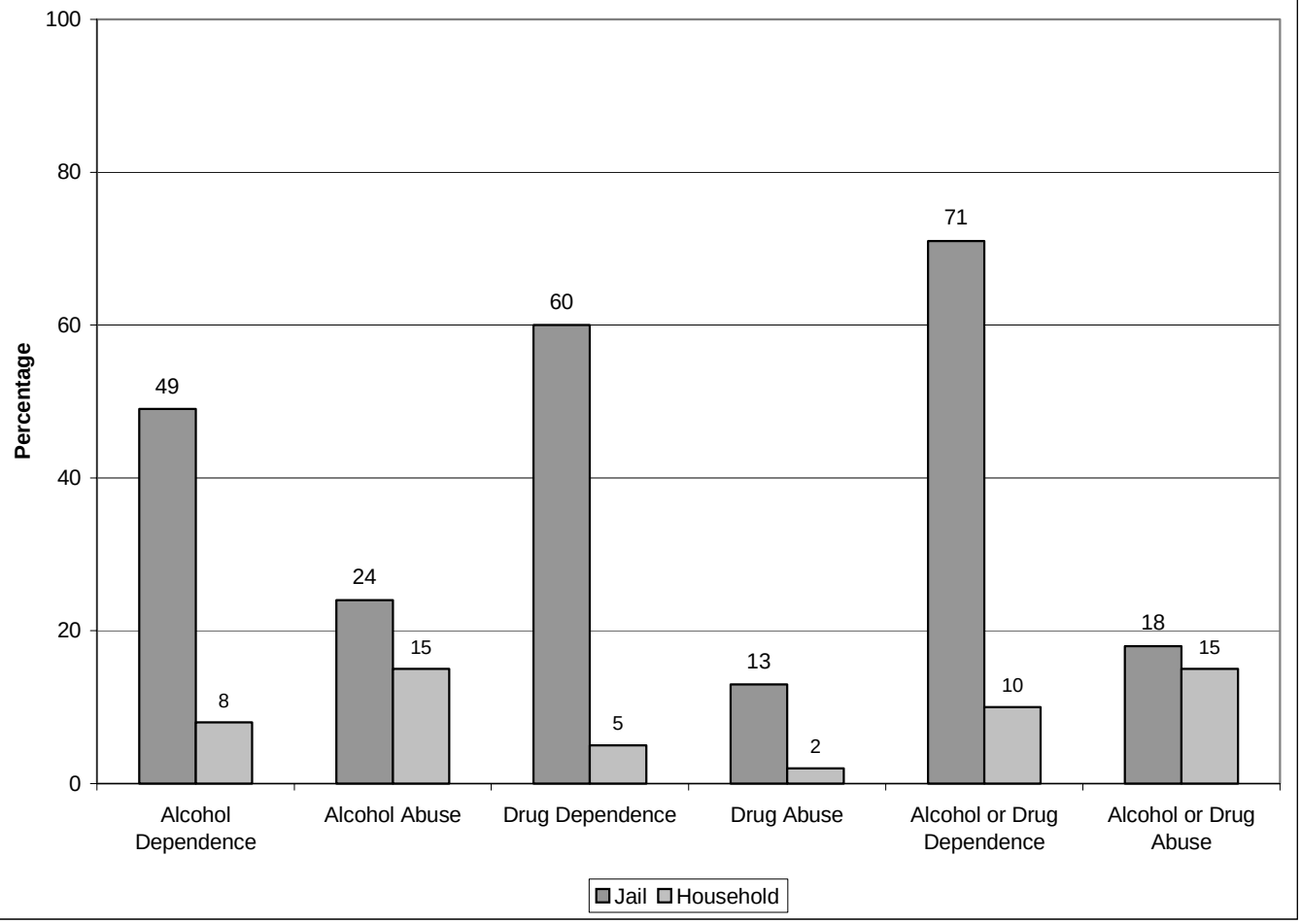
Note: For an inmate to meet lifetime diagnostic criteria for substance *dependence*, three or more of the dependence symptoms listed above had to have been reported at least once in the inmate's lifetime. To meet lifetime diagnostic criteria for substance *abuse*, the inmate must *not* meet the criteria for dependence and must have reported one or more of the abuse symptoms listed above during his or her lifetime. For an inmate to meet past year DSM-IV diagnostic criteria for substance *dependence*, three or more of the dependence symptoms listed above had to have been reported in the year prior to incarceration. To meet past year DSM-IV diagnostic criteria for substance *abuse*, the inmate must *not* meet the criteria for dependence and must report one or more of the abuse symptoms listed above. Note that dependence and abuse are mutually exclusive categories: if a person meets the diagnostic criteria for dependence, he or she cannot also be diagnosed as an abuser.

Source: Missouri Jail Inmate Survey, 2001.

5.1.4 Comparisons of Alcohol and Drug Dependence and Abuse among Jail Inmates and Household Respondents

The percentages of Missouri jail inmates and Missouri household respondents who met the criteria for dependence and abuse differed substantially. For lifetime *dependence*, inmates were much more likely to meet the criteria in all three substance categories: alcohol, drug, and alcohol or drug (see **Figure 5.1**). For example, approximately 50% or more of the inmates were found to be dependent on alcohol, drugs, and alcohol or drugs, whereas 10% or less of the household respondents were found to be dependent in their lifetime.

Figure 5.1 Prevalence of Lifetime Alcohol and Drug Dependence and Abuse for the Missouri Jail Inmate Sample and Missouri Household Survey Respondents



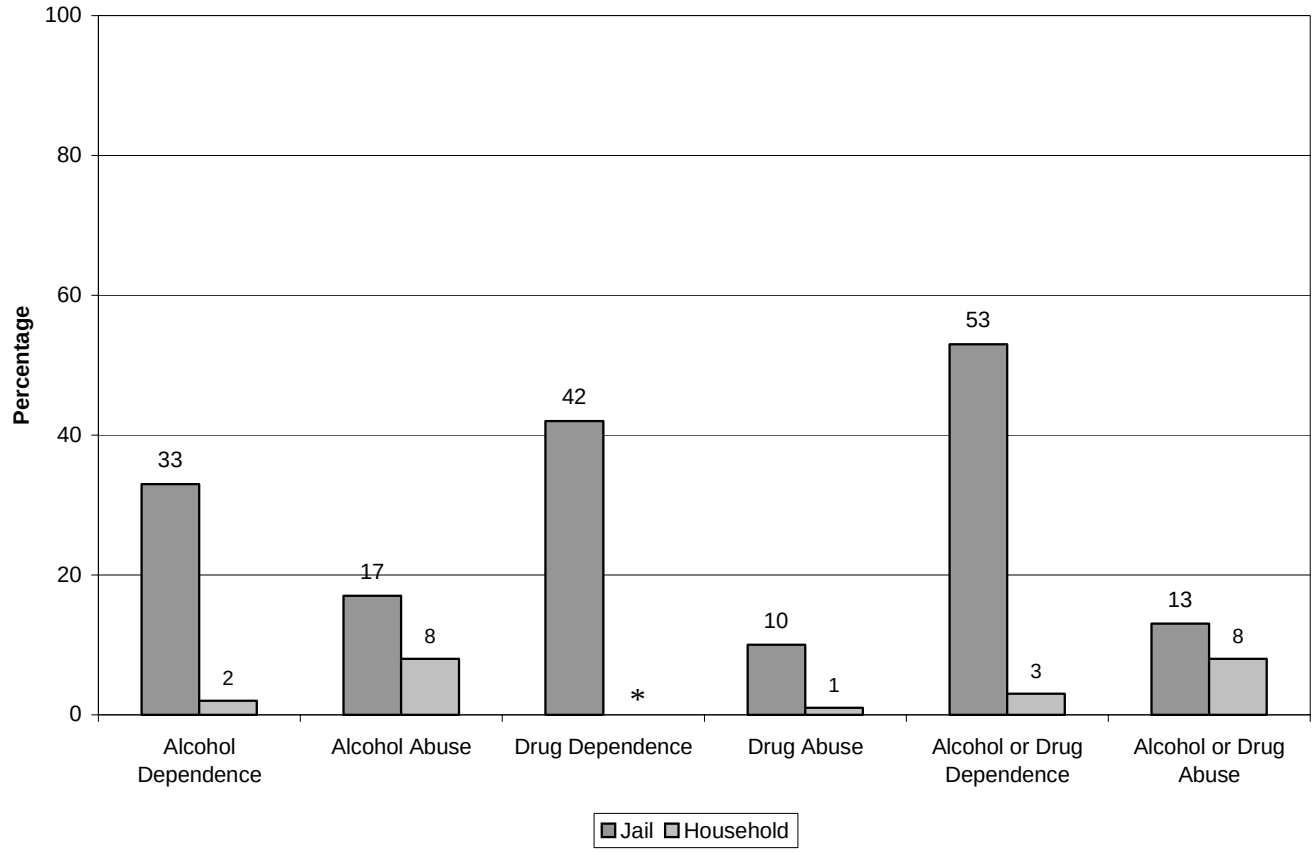
Note: For an inmate to meet lifetime diagnostic criteria for substance *dependence*, three or more of the dependence symptoms (listed in Table 5.3) had to have been reported at least once in the inmate's lifetime. To meet lifetime diagnostic criteria for substance *abuse*, the inmate must *not* meet the criteria for dependence and must have reported one or more of the abuse symptoms (listed in Table 5.3) during his or her lifetime. Note that dependence and abuse are mutually exclusive categories: if a person meets the diagnostic criteria for dependence, he or she cannot also be diagnosed as an abuser.

Source: Missouri Jail Inmate Survey, 2001; Missouri Household Respondents, 2001-2002.

Lifetime *abuse* was also higher for inmates than for household respondents, but the differences were not as great as those for lifetime dependence. For example, 18% of the inmates and 15% of the household respondents met the criteria for lifetime abuse of alcohol or drugs.

Comparisons of past year dependence and abuse showed similar patterns to those of lifetime dependence and abuse (see **Figure 5.2**). In each category of dependence, that is, alcohol, drug, or alcohol or drug, inmates were more likely to meet the criteria than were household respondents. In fact, one-third or more of the inmates were found to be

Figure 5.2 Prevalence of Past Year Alcohol and Drug Dependence and Abuse for the Missouri Jail Inmate Sample and Missouri Household Survey Respondents



Note: For an inmate to meet past year DSM-IV diagnostic criteria for substance *dependence,* three or more of the dependence symptoms (listed in Table 5.3) had to have been reported in the year prior to incarceration. To meet past year DSM-IV diagnostic criteria for substance *abuse,* the inmate must *not* meet the criteria for dependence and must report one or more of the abuse symptoms (listed in Table 5.3). Note that dependence and abuse are mutually exclusive categories: if a person meets the diagnostic criteria for dependence, he or she cannot also be diagnosed as an abuser.

* <1%

Source: Missouri Jail Inmate Survey, 2001.

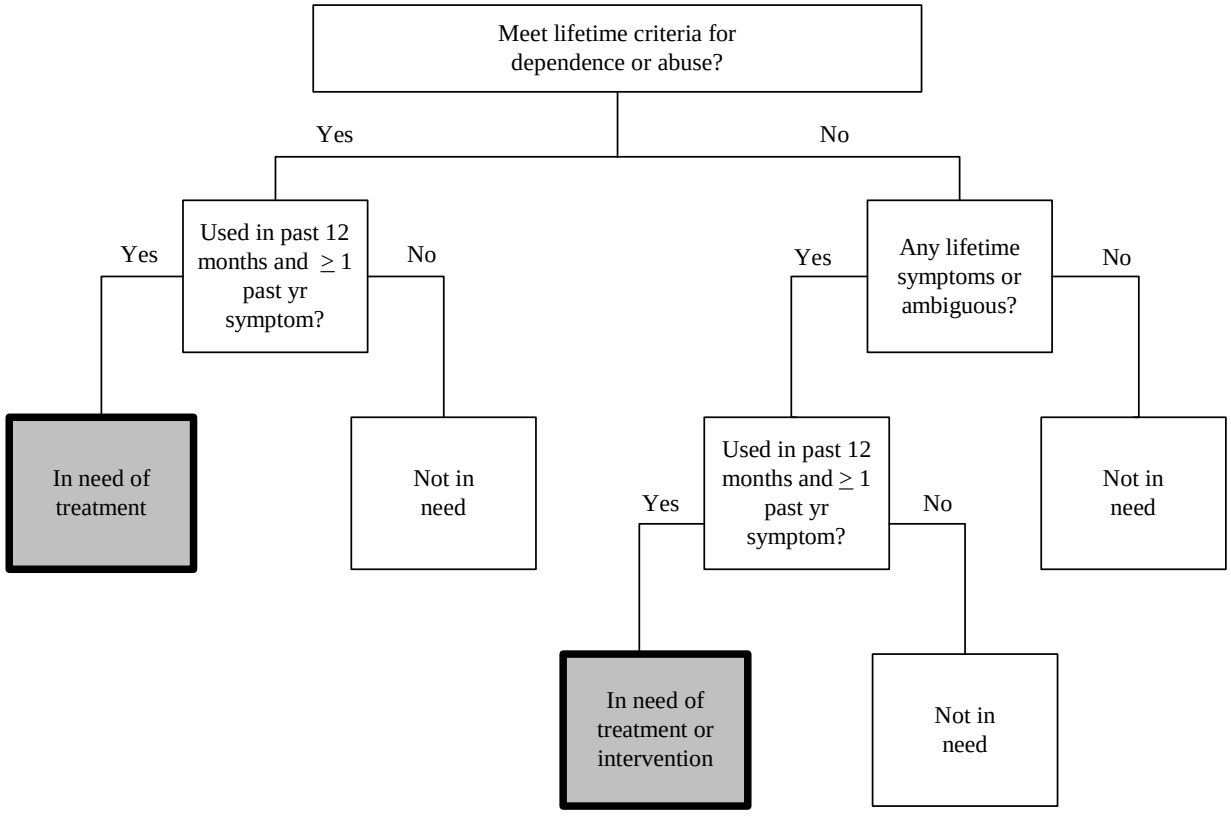
dependent, whereas 3% or less of the household respondents were dependent in the past year. Inmates were also more likely than the household respondents to meet the criteria for past year abuse. For example, 17% of the inmates met the criteria for alcohol abuse in the past year compared with 8% of the household respondents.

5.2 Prevalence of Need for Treatment or Intervention

5.2.1 Need for Alcohol or Drug Treatment and Need for Alcohol or Drug Treatment or Intervention

Need for treatment is defined as being diagnosed with dependence or abuse for alcohol or drugs in the year prior to incarceration. Need for treatment *or* intervention is defined as being diagnosed with dependence or abuse for alcohol or drugs in the year prior to incarceration, *or* being diagnosed with lifetime dependence or abuse for alcohol or drugs *and* having used alcohol or drugs in the year prior to incarceration. (See **Figure 5.3**. Also see Appendix A for information on determining need for treatment or intervention.)

Figure 5.3 Criteria for Determining Need for Treatment or Intervention



The estimates shown in **Table 5.4** indicate that in the year prior to incarceration more than half of the male inmates met the criteria for need for treatment for alcohol, any illicit drug, and alcohol or any illicit drug. Female inmates were less likely to meet the need for alcohol treatment, 36%, compared with 55% of the male inmates. However, the percentage of inmates in need of treatment for any illicit drug was approximately the same for males and females. Similar patterns were seen for need for treatment or intervention. Males were more likely to meet the criteria for need for treatment or intervention for alcohol in the year prior to incarceration than were females, 75% and 56%, respectively. Approximately 65% of males and females met the criteria for need for any illicit drug treatment or intervention. Almost 80% of the females and 88% of the males met the criteria for need for treatment or intervention for alcohol or any illicit drug in the year prior to incarceration. (See **Appendix B** for an analysis of treatment need by site.)

Table 5.4 Percentage of the Missouri Jail Inmate Sample in Need of Treatment, or Treatment or Intervention, for Alcohol, Any Illicit Drug, and Alcohol or Any Illicit Drug in the Year Prior to Incarceration

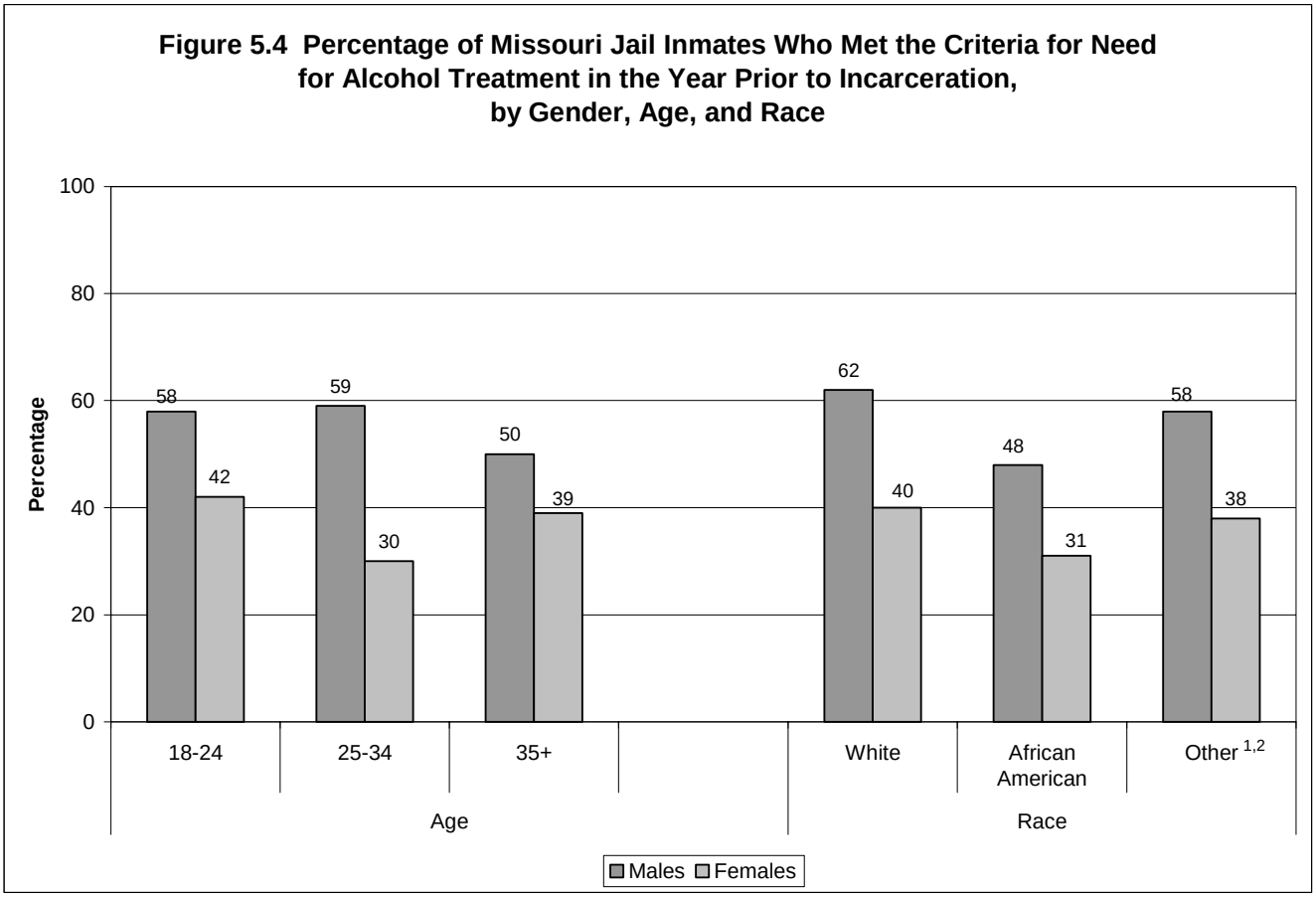
Measure	Total (%)	Males (%)	Females (%)
Need for Treatment[1]			
Alcohol	50	55	36
Any illicit drug	52	51	52
Alcohol or any illicit drug	66	68	62
Need for Treatment or Intervention[2]			
Alcohol	69	75	56
Any illicit drug	67	68	65
Alcohol or any illicit drug	86	88	79

[1] Need for treatment is defined as being diagnosed with dependence or abuse for alcohol or drugs in the year prior to incarceration.
[2] Need for treatment or intervention is defined as being diagnosed with dependence or abuse for alcohol or drugs in the year prior to incarceration or being diagnosed with lifetime dependence or abuse for alcohol or drugs *and* having used alcohol or drugs in the year prior to incarceration.

Source: Missouri Jail Inmate Survey, 2001.

In examining the relationship between alcohol treatment need and age, as well as treatment need and race, in the year prior to incarceration, we found that 50% or more of the male inmates in all age categories met the criteria for need for alcohol treatment (see **Figure 5.4**). Inmates younger than 35 years were more likely to meet the criteria for treatment need than were inmates aged 35 years or older. White males (62%) were most likely to report a need for treatment, followed by males of Other races (58%), and African American males (48%).

Figure 5.4 Percentage of Missouri Jail Inmates Who Met the Criteria for Need for Alcohol Treatment in the Year Prior to Incarceration, by Gender, Age, and Race



[1] Other race includes American Indian, Asian, and other races.
[2] There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.

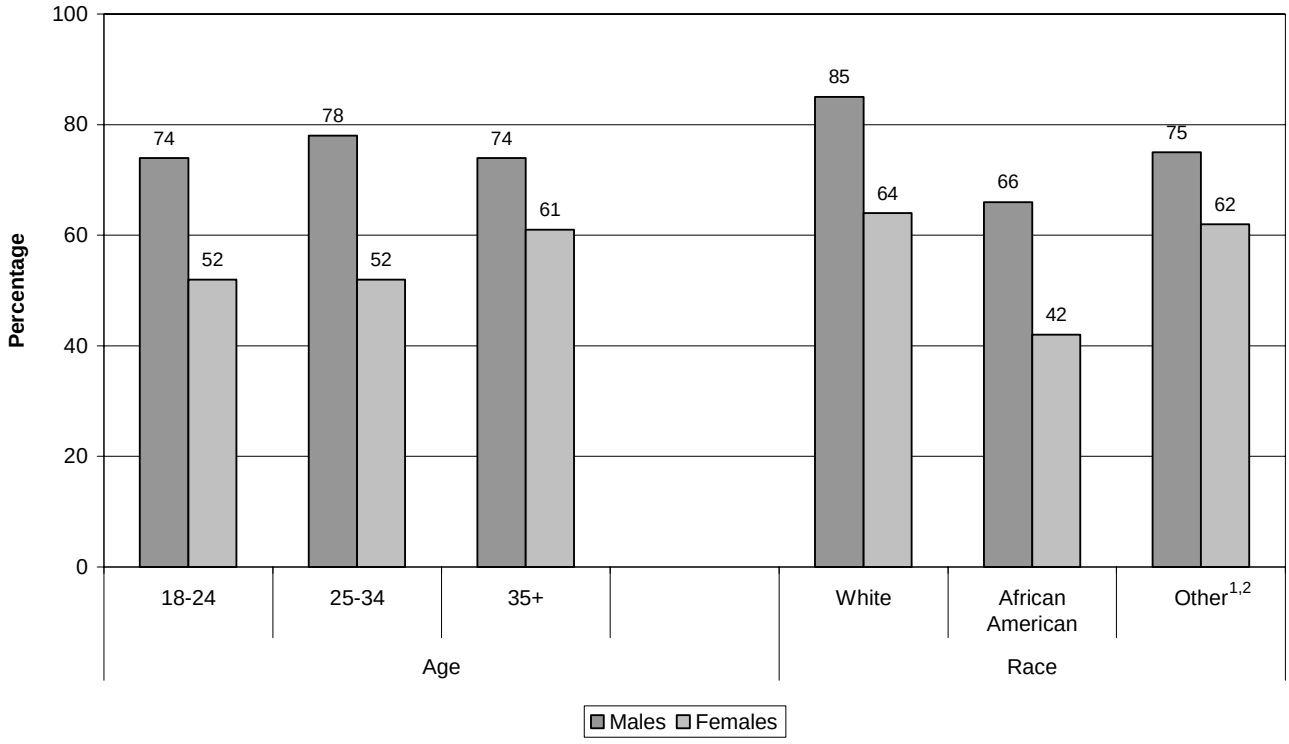
Source: Missouri Jail Inmate Survey, 2001.

White males reported the highest need for alcohol treatment or intervention (85%), followed by males of Other races (75%) and African American males (66%).

Female inmates in the 25- to 34-year-old age category were least likely to meet the criteria for alcohol treatment need compared with younger inmates (18 to 24 years) and older inmates (35 or older). As we saw with male inmates, White females were most likely to report a need for treatment (40%) compared with females of Other races (38%) and African American females (31%). There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.

When we examine the need for alcohol treatment or intervention in the year prior to incarceration, we see little difference by age for male inmates (see **Figure 5.5**). Almost three-quarters of the males in each age category met the criteria for treatment need or intervention in the year prior to incarceration. White males reported the highest need for

Figure 5.5 Percentage of Missouri Jail Inmates Who Met the Criteria for Need for Alcohol Treatment or Intervention in the Year Prior to Incarceration, by Gender, Age, and Race



[1] Other race includes American Indian, Asian, and other races.
[2] There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.

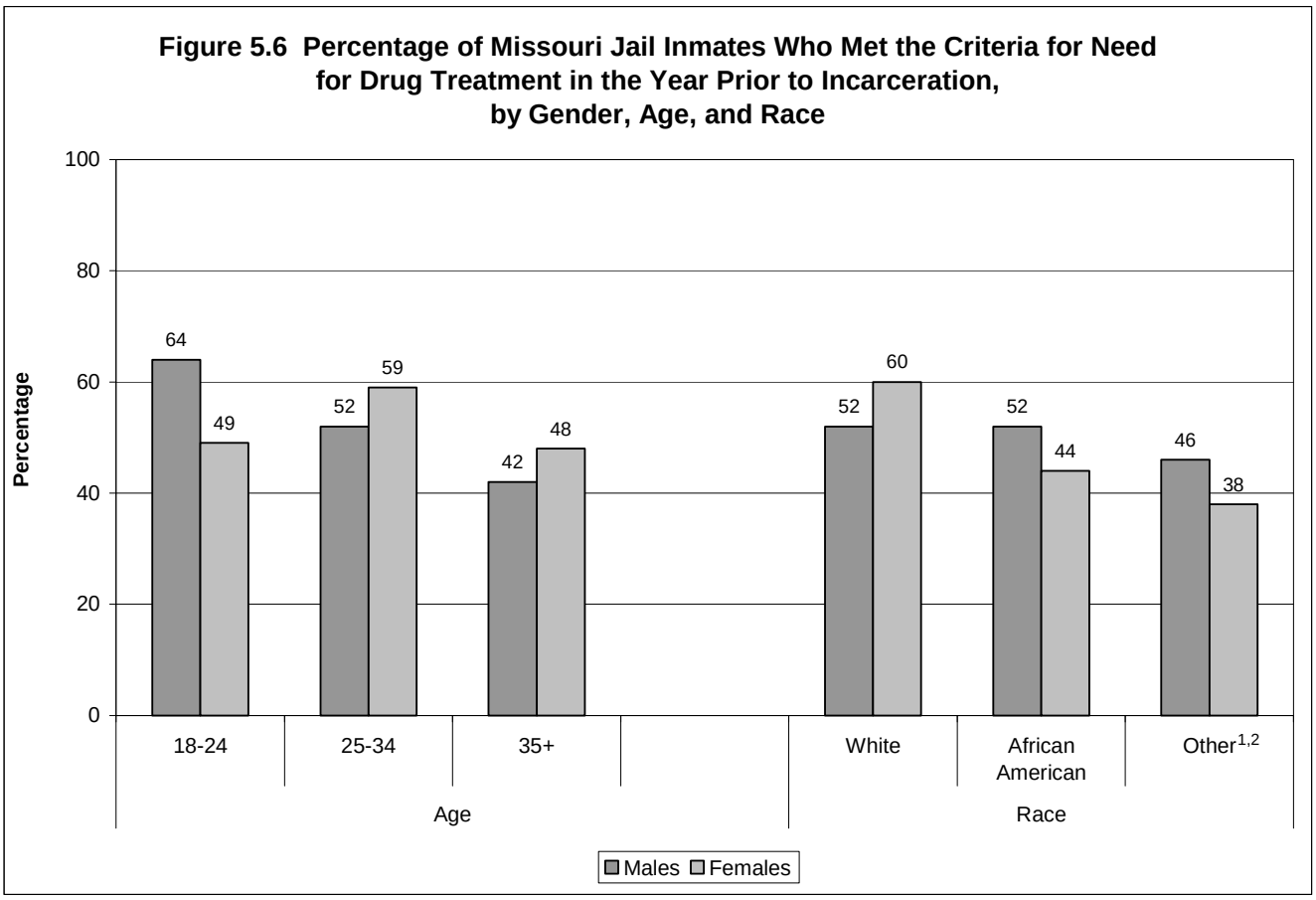
Source: Missouri Jail Inmate Survey, 2001.

alcohol treatment or intervention (85%), followed by males of Other races (75%) and African American males (66%).

Female inmates, aged 35 years or older, were most likely to meet the criteria for need for alcohol treatment or intervention (61%) compared with inmates aged 34 years or younger (52%). White women and women in the Other race category were equally likely to report a need for treatment or intervention, 64% and 62%, respectively. There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously. African American women were less likely (42%) to meet the criteria for need for alcohol treatment or intervention.

Among male inmates who met the criteria for drug treatment, the percentage needing treatment decreased with age, from 64%, for 18- to 24-year-olds, to 42% for inmates aged 35 and older (see **Figure 5.6**). We found little difference across race categories.

Figure 5.6 Percentage of Missouri Jail Inmates Who Met the Criteria for Need for Drug Treatment in the Year Prior to Incarceration, by Gender, Age, and Race



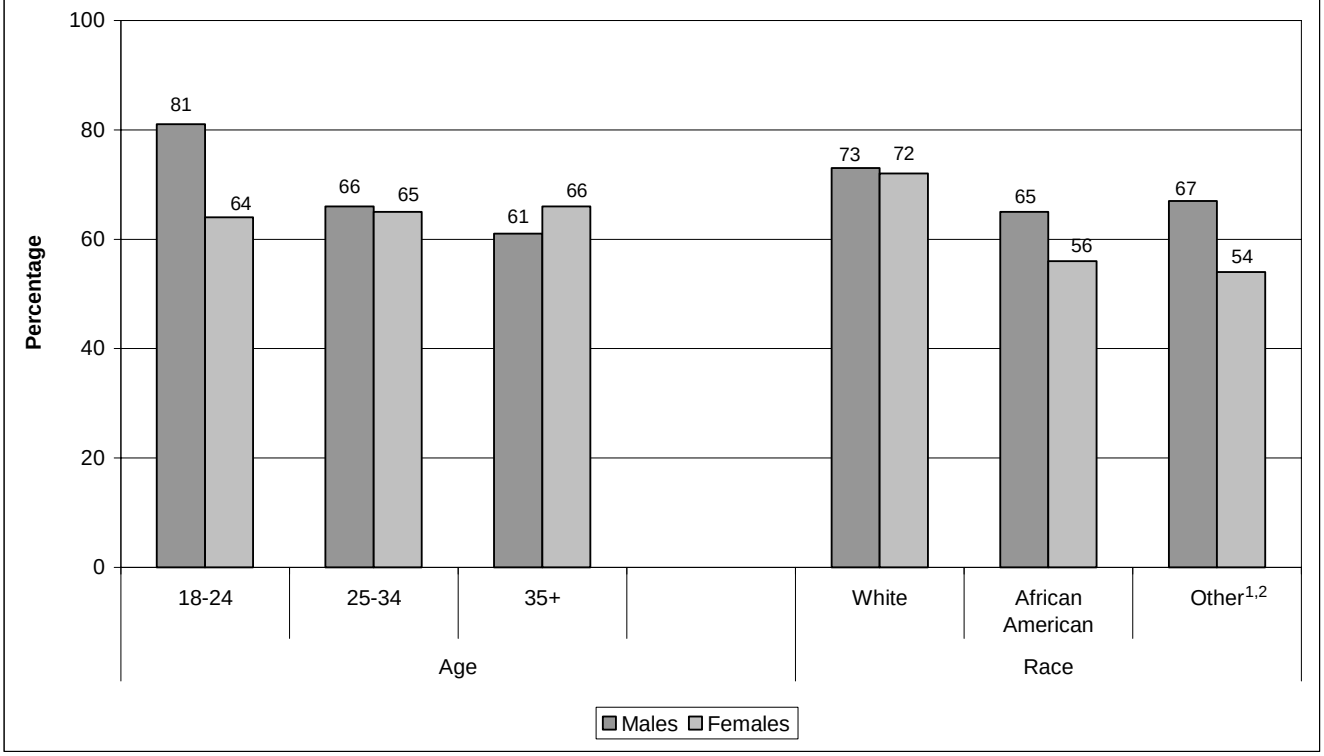
[1] Other race includes American Indian, Asian, and other races.
[2] There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.

Source: Missouri Jail Inmate Survey, 2001.

Female inmates aged 25 to 34 years were most likely (59%) to meet the criteria for drug treatment need compared with female inmates aged 18 to 24 years (49%) and those 35 and older (48%). White females (60%) reported the highest need for treatment, followed by African American females (44%) and females of Other races (38%). There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.

The need for drug treatment or intervention in the year prior to incarceration for male inmates declined with age from a high of 81% for inmates aged 18 to 24 years to 61% for inmates 35 years and older (see **Figure 5.7**). White males were most likely to meet the criteria for drug treatment or intervention (73%) followed by males of Other races (67%) and African American males (65%).

Figure 5.7 Percentage of Missouri Jail Inmates Who Met the Criteria for Need for Drug Treatment or Intervention in the Year Prior to Incarceration, by Gender, Age, and Race



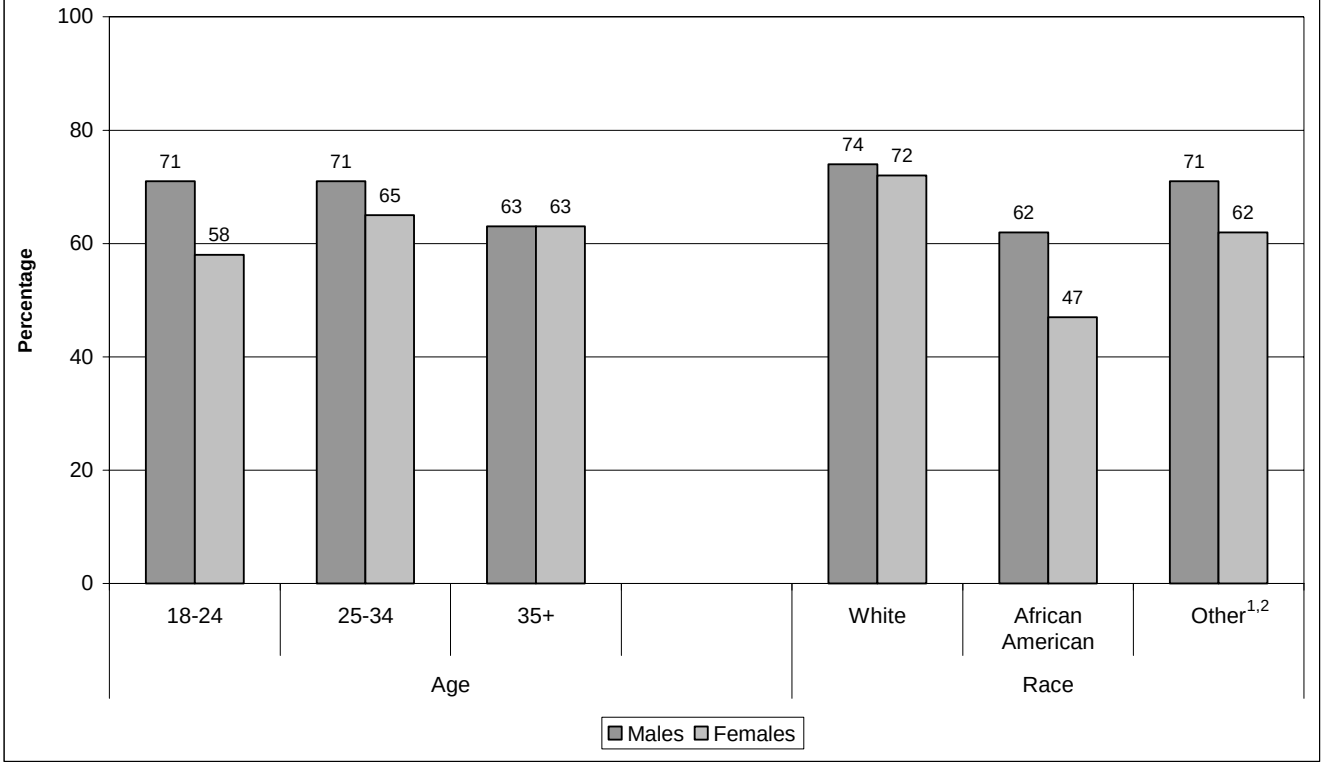
[1] Other race includes American Indian, Asian, and other races.
[2] There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.

Source: Missouri Jail Inmate Survey, 2001.

Female inmates in all three age categories reported approximately the same need for drug treatment or intervention in the year prior to incarceration. We do see a difference in treatment need and race, however, with White females reporting the highest need for treatment (72%). Approximately half of the African American females and females of Other races met the criteria for drug treatment or intervention.

An analysis of treatment need for alcohol *or* drug treatment in the year prior to incarceration (see **Figure 5.8**) finds that young male inmates (under 35 years) reported higher percentages of treatment need (71%) than older inmates (35 years and older) (63%). White males and males of Other races reported higher levels of alcohol or drug treatment need, 74% and 71%, respectively, compared with 62% of African American males.

Figure 5.8 Percentage of Missouri Jail Inmates Who Met the Criteria for Need for Alcohol or Drug Treatment in the Year Prior to Incarceration, by Gender, Age, and Race



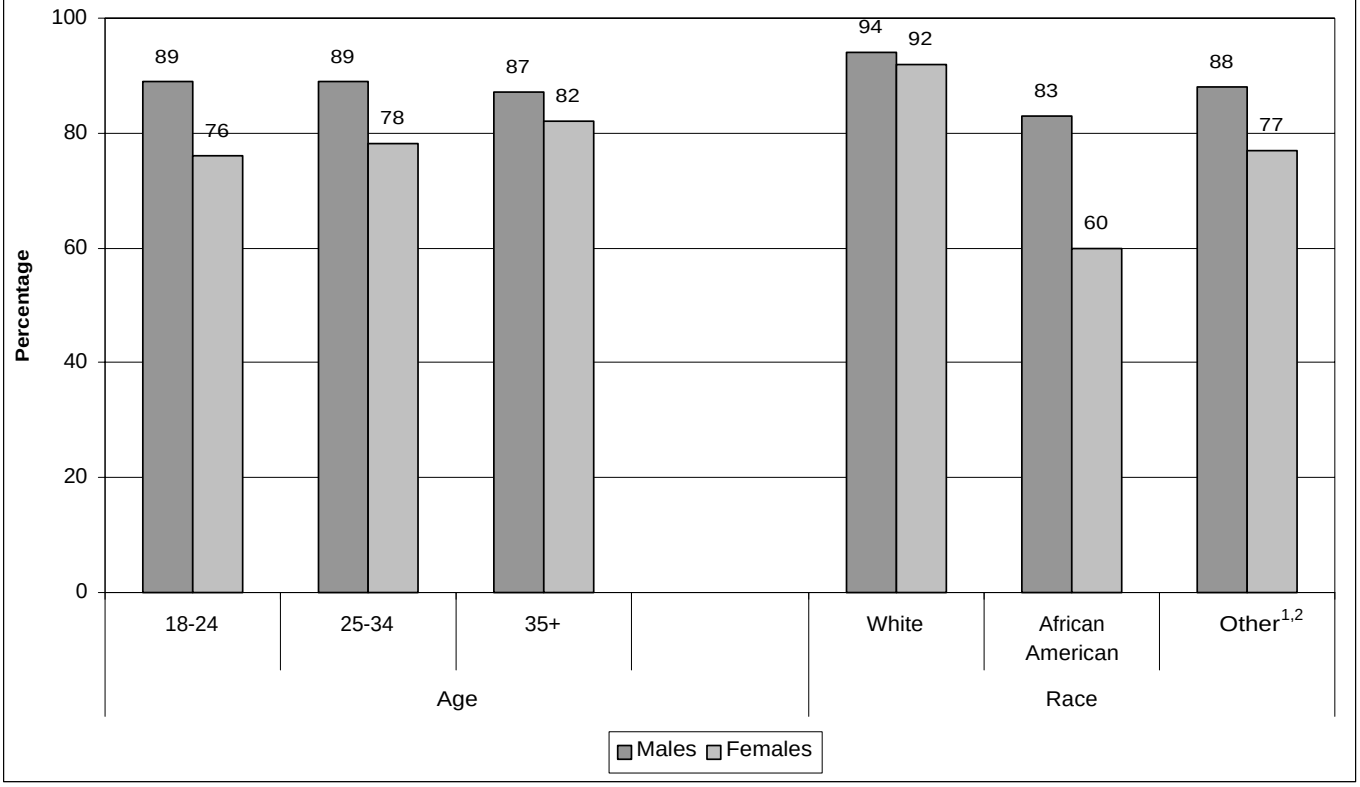
[1] Other race includes American Indian, Asian, and other races.
[2] There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.

Source: Missouri Jail Inmate Survey, 2001.

Young female inmates (58%) were least likely to meet the criteria for alcohol or drug treatment need compared with older inmates. White females (72%) reported the highest level of alcohol or drug treatment need compared with inmates of Other races (62%) and African American inmates (47%). There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.

The final analysis (see **Figure 5.9**) examines the relationship between alcohol or drug treatment or intervention by age and race. Over 85% of the male inmates in each of the three age categories met the criteria for alcohol or drug treatment or intervention in the year prior to incarceration. Almost all of the White males met the criteria (94%) compared with 88% of males of Other races and 83% of African American males.

Figure 5.9 Percentage of Missouri Jail Inmates Who Met the Criteria for Need for Alcohol or Drug Treatment or Intervention in the Year Prior to Incarceration, by Gender, Age, and Race



[1] Other race includes American Indian, Asian, and other races.
[2] There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.

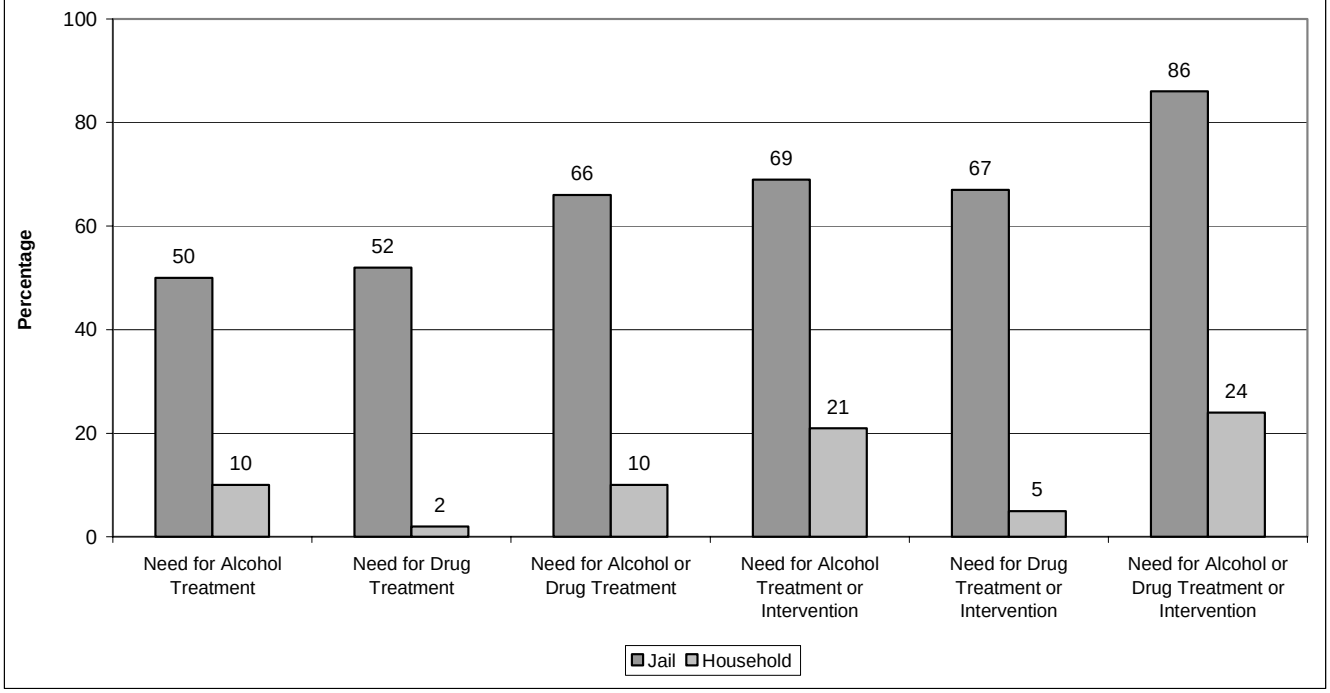
Source: Missouri Jail Inmate Survey, 2001.

We found little difference across age categories in treatment or intervention need for females. More than three-quarters of the female inmates met the criteria for need for alcohol or drug treatment *or* intervention in the year prior to incarceration. We saw a difference, however, when we examined race and treatment or intervention need for females. White females reported the highest rates of need for treatment (92%), followed by females of Other races (77%) and African American females (60%). There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.

5.2.2 Comparisons of Need for Treatment and Need for Treatment *or* Intervention among Jail Inmates and Household Respondents

Inmates were much more likely to meet the criteria for need for treatment in the past year than were household respondents (see **Figure 5.10)**; this finding was true for alcohol treatment, drug treatment, and alcohol or drug treatment. In fact, inmates were at least five times more likely to meet the criteria for treatment in each category. For example, 66% of the inmates met the criteria for need for alcohol or drug treatment in the past year compared with 10% of the household respondents. Need for treatment *or* intervention showed similar findings in that inmates were much more likely to meet the criteria in each category (alcohol, drug, or alcohol or drug) than were household respondents. For example, 67% of the inmates met the criteria for need for drug treatment *or* intervention compared with 5% of the household respondents.

Figure 5.10 Percentage of Missouri Jail Inmates and Missouri Household Respondents Who Met the Criteria for Need for Treatment and Need for Treatment or Intervention in the Past Year



Note: Need for treatment is defined as being diagnosed with dependence or abuse for alcohol or drugs in the year prior to incarceration. Need for treatment or intervention is defined as being diagnosed with dependence or abuse for alcohol or drugs in the year prior to incarceration or being diagnosed with lifetime dependence or abuse for alcohol or drugs *and* having used alcohol or drugs in the year prior to incarceration.

Source: Missouri Jail Inmate Survey, 2001.

5.3 Multivariate Analysis

5.3.1 Logistic Regression Analyses

To determine what factors independently affected inmates' alcohol and illicit drug use, we ran two multivariate logistic regressions by gender (a total of four models). The dependent variables were (1) whether the inmate met the criteria for need for alcohol or drug treatment, and (2) whether the inmate met the criteria for alcohol or drug treatment or intervention. (As noted earlier, need for treatment is defined by whether the inmate met DSM-IV criteria for dependence or abuse of alcohol or drugs in the year prior to incarceration and need for treatment or intervention is defined as whether the inmate met DSM-IV criteria for dependence or abuse of alcohol or drugs *and* reported using drugs in the year prior to incarceration.) Approximately 50 independent variables were inserted into the models, including demographic items (such as age, race, gender, education, employment status, and marital status), criminal history indicators, family and peer characteristics, measures of physical and mental health, and alcohol and drug use. The models were then put through forward-entry procedure in which variables were entered one at a time, based on a designated significance value of 0.05. The procedure ceased when SAS determined that no additional variables would explain a significant portion of the variance in the independent variable.

Several variables (site, age, race, education, and time incarcerated in the year prior to the current incarceration) were added back into the models because of interest in their relationship to the dependent variables. Site, race, and education were coded as dummy variables. The reference category for site is St. Louis County, for race it is White, and for education it is non-high school graduate. Reference categories for race and site were based on sample size. Whites were the predominant racial group for all inmates, and St. Louis County jail inmates made up the largest segment of the sample. Age (measured in years) and time incarcerated in the year prior to incarceration (measured in days) were coded as continuous variables. [Note: Additional information regarding the regression models is included in the footnotes for each table.]

5.3.2 Findings Related to Need for Alcohol or Drug Treatment for Male Inmates

Several variables were found to be significantly associated with an increase in need for alcohol or drug treatment, including having committed drug crimes in the year prior to incarceration, having a

relative with an alcohol, drug, or psychological problem; and depression (see **Table 5.5**). Specifically, we found that for each additional drug crime reported, the odds of meeting the criteria for need for treatment increased; that is, inmates who reported more drug crimes generally were more likely to be in need of treatment. Male inmates who reported having a relative with an alcohol, drug, or psychological problem were three times more likely to meet the criteria for need for treatment than were male inmates who did not have a relative with such problems. Similarly, male inmates who had a spouse/partner who had been incarcerated were three times more likely to meet the criteria for need for treatment than were male inmates who did report having a spouse/partner who had been incarcerated. Men who scored high on the depression index were also more likely to meet the criteria for need for treatment compared with men reporting lower depression scores.

Two variables were found to be significantly related to a *decrease* in need for treatment: having six or more children and difficulty looking forward to what your life would be like in the future. Male inmates who reported having six or more children were four times (1/.24) *less* likely to meet the criteria for treatment need than were males who did not report having children. Men who reported sometimes or frequently having difficulty looking forward to what their lives would be like in the future were two times (1/.48) *less* likely to meet the criteria for treatment need than were men who rarely or never reported this difficulty.

Male inmates who reported having six or more children were four times (1/.24) less likely to meet the criteria for treatment need than were males who did not report having children.

5.3.3 Findings Related to Need for Alcohol or Drug Treatment or Intervention for Male Inmates

Variables that were associated with an *increase* in the likelihood of meeting the criteria for alcohol or drug treatment *or* intervention among male inmates included drug crimes committed in the year prior to incarceration; having a spouse/partner with an alcohol drug, or psychological problem; and inability to remember parts of childhood or certain periods of life (see **Table 5.5**). Each additional drug crime committed in the year prior to incarceration increased the odds of meeting the criteria for treatment or intervention. In other words, inmates who reported more drug crimes generally were more likely to be in need of treatment or intervention. Men who reported having a spouse/partner with an alcohol, drug, or psychological problem were almost three times more likely to meet the criteria than were men who did not report having a spouse/partner with these problems. Those inmates who reported an inability to remember parts of their childhood or certain periods of their life were four times more likely to meet the

Table 5.5 Logistic Regression Findings for the Male Missouri Jail Inmate Sample: Need for Alcohol or Drug Treatment and Need for Alcohol or Drug Treatment or Intervention

Variable	Need for Treatment‡		Need for Treatment or Intervention‡	
	Odds Ratio	95% Confidence Interval	Odds Ratio	95% Confidence Interval
Greene County jail inmates[1]	.73	.33 – 1.61	1.03	.31 – 3.38
Jackson County jail inmates[1]	.89	.43 – 1.83	.77	.31 – 1.88
Boone County jail inmates[1]	.95	.37 – 2.46	6.66	.78 – 56.85
Age[2]	.99	.96 – 1.02	.99	.96 – 1.03
High school graduate	.71	.39 – 1.31	.94	.41 – 2.16
African American[1]	.70	.36 – 1.34	.43	.17 – 1.09
Other race[1, 3]	.54	.16 – 1.84	.32	.05 – 2.02
Time incarcerated (py[2, 4])	.99	.99 – 1.00	.99*	.991 – .999
Drug crimes (py[2, 4])	1.003**	1.001 – 1.006	1.01*	1.00 – 1.02
Arrests (py[2, 4])	–	–		
Spouse with an alcohol, drug, or psychological problem	–	–	2.66*	1.08 – 6.52
Relative with an alcohol, drug, or psychological problem	3.02***	1.68 – 5.41	–	–
Spouse/partner has been incarcerated	3.58**	1.52 – 8.44	–	–
Having 6 or more children[1]	.24*	.07 –.83	–	–
Depression[5]	1.12***	1.05 – 1.20	–	–
Difficulty looking to the future	.48*	.24 –.94	–	–
Inability to remember past	–	–	4.12**	1.52 – 11.20
Victim of sexual abuse	–	–	.30*	.087 – .997

* $p<0.05$, ** $p<0.01$, *** $p<0.001$.

Note: Odds ratios are presented for independent categorical and continuous variables. *Categorical* variables are dichotomous and have been designated a reference category (e.g., the reference category for reported powder cocaine use in the year prior to incarceration is no reported powder cocaine use during that time). *Continuous* variables are not designated a reference category but instead have a range of responses (e.g., age measured in years). Odds ratios that are found to be significant and below 1.0 are associated with a *decrease* in likelihood, whereas odds ratios that are found to be significant and above 1.0 are associated with an *increase* in likelihood.

Odds ratios indicate the likelihood that the outcome of the model (e.g., that an inmate will be in need of treatment) will occur if an inmate reports an independent variable (e.g., having a relative with an alcohol, drug, or psychological problem) associated with that odds ratio. In the model above, inmates who reported having a relative with an alcohol, drug, or psychological problem were 3.02 times more likely to also be in need of treatment than inmates who did not report having a relative with such problems. The odds ratios for continuous variables indicate the likelihood that the outcome of the model will occur if an inmate presents a one-unit increase in the continuous independent variable associated with that odds ratio. For example, the odds ratio for the number of drug crimes, which is continuous, indicates that for each drug crime committed in the year prior to incarceration, there was a 1.00 increase in odds of that inmate needing treatment.

‡ Need for treatment is defined as being diagnosed with dependence or abuse for alcohol or drugs in the year prior to incarceration. Need for treatment *or* intervention is defined as being diagnosed with dependence or abuse for alcohol or drugs in the year prior to incarceration, *or* being diagnosed with lifetime dependence or abuse for alcohol or drugs *and* having used alcohol or drugs in the year prior to incarceration.

[1] Reference categories for multilevel categorical variables are: Jail inmates = St. Louis County inmates; Race = White; and Number of children = None.

[2] Ages ranged from 0 to 80 years; time incarcerated ranged from 0 to 365 days; drug crimes ranged from 0 to 500; and arrests ranged from 0 to 50.

[3] There were fewer than 20 cases in this category, so findings should be interpreted cautiously.

[4] py connotes the year prior to incarceration.

[5] Based on a seven-item depression scale adapted from the Center of Epidemiologic Studies Depression (CES-D) scale (Breslau, 1985).

Source: Missouri Jail Inmate Survey, 2001.

treatment or intervention criteria than males who did not report trouble recalling such times.

Two variables were associated with a *decrease* in the likelihood of meeting the criteria for alcohol or drug treatment or intervention: time incarcerated in the year prior to arrest and sexual abuse victimization. For each day incarcerated in the year prior to the current incarceration, the likelihood of meeting the criteria for treatment or intervention was *reduced*. In other words, inmates who spent more time incarcerated in the year prior to their current incarceration generally were less likely to be in need of treatment or intervention. Male inmates who were victims of sexual abuse were three times (1.0/.30) *less* likely to meet the criteria than were men who did not report being victims of sexual abuse.

5.3.4 Findings Related to Need for Alcohol or Drug Treatment for Female Inmates

Two criminal justice variables were found to be significantly associated with need for alcohol or drug treatment among female inmates: drug crimes and past year arrests (see **Table 5.6)**. For each additional drug crime reported in the year prior to incarceration, the odds of meeting the criteria for need for treatment increased; that is, inmates who reported more drug crimes were generally more likely to be in need of treatment or intervention. And for each additional arrest in the year prior to incarceration, the odds of meeting the criteria for need for treatment increased by a factor of almost two. Women who reported having a relative with an alcohol, drug, or psychological problem were almost 16 times more likely to meet the criteria for need for alcohol or drug treatment than were women who did not report having relatives with such problems. Female inmates who reported having suicidal ideations were 24 times more likely to meet the criteria for need for treatment than were female inmates who did not report suicidal ideations. The last significant relationship found for women's treatment need was number of children. Women who reported having three to five children were 5 (1.0/.20) times *less* likely to meet the criteria for need for alcohol or drug treatment than were women who did not report having children.

5.3.5 Findings Related to Need for Alcohol or Drug Treatment or Intervention for Female Inmates

Two criminal justice variables were found to be significantly related to need for alcohol or drug treatment or intervention among female inmates (see **Table 5.6**). Each additional arrest in the year prior

Two criminal justice variables—arrests and drug crimes—were found to be significantly related to need for alcohol or drug treatment or intervention among female inmates.

to incarceration increased the odds of meeting the criteria for need for treatment or intervention by a factor of three. Similarly, each additional drug crime committed in the year prior to incarceration increased the odds of meeting the criteria; in other words, inmates who reported more drug crimes were generally more likely to be in need of treatment or intervention. Other variables associated with an increase in need for alcohol or drug treatment included having a relative with an alcohol, drug, or psychological problem; marital status; and difficulty looking to the future. Female inmates who reported having a relative with an alcohol, drug, or psychological problem were five times more likely to meet the criteria for need for treatment or intervention than were females who did not report having relatives with such problems. Women who reported never being married were almost eight times more likely to need treatment or intervention than women who had been married. Lastly, females who reported sometimes or frequently having difficulty looking forward to what their life would be like in the future were almost five times more likely to meet the criteria than females who reported never or rarely having such difficulty.

One demographic variable, race, was found to be associated with need for alcohol or drug treatment or intervention. African American women were 14 times (1/.07) *less* likely to meet the criteria for treatment or intervention than were White women.

Table 5.6 Logistic Regression Findings for the Female Missouri Jail Inmate Sample: Need for Alcohol or Drug Treatment and Need for Alcohol or Drug Treatment or Intervention

Variable	Need for Treatment‡		Need for Treatment or Intervention‡	
	Odds Ratio	95% Confidence Interval	Odds Ratio	95% Confidence Interval
Greene County jail inmates[1]	1.48	.22 – 9.89	.76	.07 – 7.83
Jackson County jail inmates[1, 3]	.24	.05 – 1.24	2.30	.33 – 16.12
Boone County jail inmates[1]	2.68	.45 – 15.90	4.46	.48 – 41.79
Age[2]	1.02	.94 – 1.11	1.05	.95 – 1.15
High school graduate	3.22	.80 – 13.03	2.70	.63 – 11.52
African American[1]	.49	.13 – 1.86	.07**	.01 – .53
Other race[1, 3]	3.13	.25 – 38.96	.57	.05 – 6.61
Time incarcerated (py[2, 4])	1.00	.99 – 1.01	1.00	.99 – 1.01
Arrests (py[2, 4])	1.97*	1.15 – 3.39	3.40**	1.60 – 7.21
Drug crimes (py[2, 4])	1.01***	1.004 – 1.016	1.01*	1.002 – 1.020
Relative with an alcohol, drug, or psychological problem	15.80***	3.73 – 66.90	5.25*	1.31 – 21.06
Having 3 to 5 children[1]	.20*	.05 – .78	–	–
Never married	–	–	7.61*	1.18 – 49.30
Suicidal thoughts	24.35*	2.35 – 251.99	–	–
Difficulty imagining future	–	–	4.91*	1.23 – 19.56

* $p<0.05$, ** $p<0.01$, *** $p<0.001$.

Note: Odds ratios are presented for independent categorical and continuous variables. *Categorical* variables are dichotomous and have been designated a reference category (e.g., the reference category for reported powder cocaine use in the year prior to incarceration is no reported powder cocaine use during that time). *Continuous* variables are not designated a reference category but instead have a range of responses (e.g., age measured in years). Odds ratios that are found to be significant and below 1.0 are associated with a *decrease* in likelihood, whereas odds ratios that are found to be significant and above 1.0 are associated with an *increase* in likelihood.

Odds ratios indicate the likelihood that the outcome of the model (e.g., that an inmate will be in need of treatment) will occur if an inmate reports an independent variable (e.g., having a relative with an alcohol, drug, or psychological problem) associated with that odds ratio. In the model above, inmates who reported having a relative with an alcohol, drug, or psychological problem were 15.80 times more likely to also be in need of treatment than inmates who did not report having a relative with such problems. The odds ratios for continuous variables indicate the likelihood that the outcome of the model will occur if an inmate presents a one-unit increase in the continuous independent variable associated with that odds ratio. For example, the odds ratio for the number of drug crimes, which is continuous, indicates that for each drug crime committed in the year prior to incarceration, there was a 1.01 increase in odds of that inmate needing treatment.

‡ Need for treatment is defined as being diagnosed with dependence or abuse for alcohol or drugs in the year prior to incarceration. Need for treatment *or* intervention is defined as being diagnosed with dependence or abuse for alcohol or drugs in the year prior to incarceration, *or* being diagnosed with lifetime dependence or abuse for alcohol or drugs *and* having used alcohol or drugs in the year prior to incarceration.

[1] Reference categories for multilevel categorical variables are: Jail inmates = St. Louis County inmates; Race = White; and Number of children = None.

[2] Ages ranged from 18 to 55 years; time incarcerated ranged from 0 to 365 days; arrests ranged from 0 to 35; and drug crimes ranged from 0 to 500.

[3] There were fewer than 20 inmates in this category, so findings should be interpreted cautiously.

[4] py connotes the year prior to incarceration.

Source: Missouri Jail Inmate Survey, 2001.

5.4 Alcohol and Drug Treatment History

5.4.1 Alcohol and Drug Treatment and Assistance

We examined the percentages of Missouri inmates who received treatment or assistance for substance use in their lifetime and in the year prior to incarceration (see **Table 5.7**). Questions about treatment or assistance were asked only of respondents who reported use of alcohol or other substances. Approximately half of the inmates reported having received treatment (49%) or assistance (46%) in their lifetime, with the majority reporting residential treatment (41%) and self-help groups (40%). Female inmates (53%) were more likely to report having received treatment in their lifetime than were male inmates (47%). Women were also more likely to report having received each type of treatment, excluding halfway house treatment and methadone maintenance. Sixteen percent of the male inmates reported halfway house treatment compared with 10% of the females. There was little difference between males (2%) and females (1%) in reports of receiving methadone maintenance. In the year prior to incarceration, females (22%) also reported higher rates of treatment utilization than did the males (16%). (See **Appendix B** for an analysis of treatment history by site.)

Table 5.7 Percentage of Missouri Jail Inmates Who Had Lifetime or Past Year Alcohol or Drug Treatment

Type of Treatment or Assistance	Lifetime			Year Prior to Incarceration		
	Total (%)	Males (%)	Females (%)	Total (%)	Males (%)	Females (%)
Any Treatment[1]	49	47	53	18	16	22
Detoxification	21	20	26	6	6	7
Residential treatment	41	37	49	12	11	16
Halfway house	14	16	10	3	4	2
Outpatient treatment	30	27	39	11	10	14
Methadone maintenance	2	2	1	1	<1	1
Any Assistance[2]	46	44	49	15	12	21
Counseling outside of a program	16	14	22	4	3	7
Self-help group	40	38	47	13	11	17
Pastoral counseling	21	19	25	5	5	7
DWI program	12	15	6	1	1	0
Any Treatment or Assistance[3]	50	49	53	19	17	25

Note: Questions about treatment or assistance were asked only of respondents who reported use of alcohol or other drugs.

[1] Any treatment includes detoxification, residential treatment, halfway house services, outpatient treatment, and methadone maintenance.
[2] Any assistance includes substance abuse counseling outside of a formal treatment program, attendance at self-help groups (e.g., Alcoholics Anonymous, Narcotics Anonymous, etc.), pastoral counseling for substance abuse, or participation in programs for people arrested or convicted of driving while impaired (DWI).
[3] Any treatment or assistance includes all services in footnotes 1 and 2.

Source: Missouri Jail Inmate Survey, 2001.

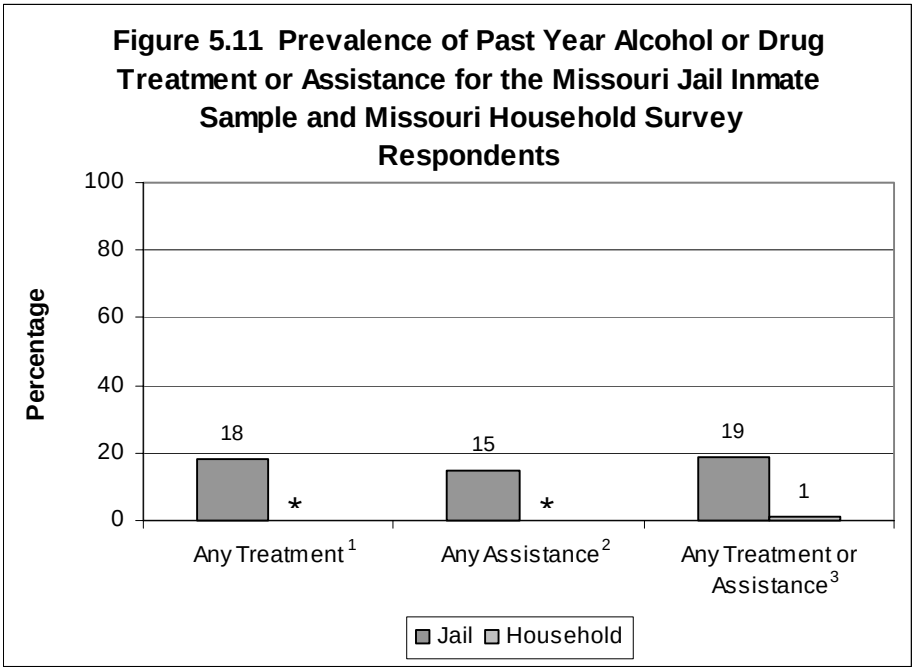
Forty-six percent of the inmates reported having received some type of assistance in their lifetime. Females were more likely to report each type of assistance except DWI programs. Males (15%) were more than twice as likely to report DWI programs than were females (6%). In the year prior to incarceration, 12% of the men and 21% of the females reported receiving assistance. And 17% of the men and 25% of the women reported having received treatment or assistance in the year prior to incarceration.

5.4.2 Comparisons of Alcohol or Drug Treatment or Assistance among Jail Inmates and Household Respondents

Inmates were far more likely to report having received treatment or assistance for alcohol or drugs in the past year than were household respondents (see **Figure 5.11**). Eighteen percent of the inmates reported receiving treatment compared with less than 1% of the household respondents. Similarly, inmates were more likely to report receiving assistance in the past year (15%) than were household respondents

(<1%). When asked if they had received treatment or assistance in the past year, 19% of the inmates said they had received such services compared with 1% of the household respondents.

Figure 5.11 Prevalence of Past Year Alcohol or Drug Treatment or Assistance for the Missouri Jail Inmate Sample and Missouri Household Survey Respondents



* <1%

Note: Questions about treatment or assistance were asked only of respondents who reported use of alcohol or drugs.

[1] Any treatment includes detoxification, residential treatment, halfway house services, outpatient treatment, and methadone maintenance.
[2] Any assistance includes substance abuse counseling outside of a formal treatment program, attendance at self-help groups (e.g., Alcoholics Anonymous, Narcotics Anonymous, etc.), pastoral counseling for substance abuse, or participation in programs for people arrested or convicted of driving while impaired (DWI).
[3] Any treatment or assistance includes all services in footnotes 1 and 2.

Source: Missouri Jail Inmate Survey, 2001.

5.5 Willingness and Barriers to Receiving Alcohol or Drug Treatment

To provide better alcohol and drug treatment services and to increase treatment availability, we must consider the reasons that inmates did not seek or receive treatment for substance use prior to incarceration. Often an individual may want treatment but is unable to receive the necessary services because of special circumstances or barriers. This section examines the willingness of jail inmates to receive treatment and the barriers that kept them from seeking or receiving treatment in the year prior to incarceration.

5.5.1 Willingness to Receive Treatment for Drug Use

Inmates who reported using illicit drugs in the year prior to incarceration but who had not received treatment or assistance during that time were asked whether they would have sought treatment for their substance use had it been available. (Note: Inmates who reported problems with alcohol use but *not* drugs were not asked about their treatment needs.)

Over one-third (34%) of the inmates who reported using drugs in the past year said that they would have been willing to receive treatment (see **Table 5.8**). Female inmates were more likely to report willingness than were male inmates, 43% versus 31%, respectively.

5.5.2 Barriers to Receiving Treatment

The inmates were read a list of potential barriers to treatment and asked if any of these barriers had influenced their decision to seek treatment in the year before their incarceration. Male inmates were most likely to report financial issues as the greatest barrier to treatment: 47% reported that they could not pay for treatment (see **Table 5.8**). Female inmates were most likely to report too few treatment slots: 48% stated that treatment programs were full.

Of the inmates who expressed a willingness to receive treatment, more than three-quarters (77%) cited at least one barrier that precluded them from seeking or receiving treatment.

Table 5.8 Percentage of the Missouri Jail Inmate Sample Who Would Have Sought Treatment for Their Substance Use If It Had Been Readily Available

	Total n=290 (%)	Males n=218 (%)	Females n=72 (%)
Willing to Receive Treatment	34	31	43
Barriers to Treatment			
Programs were not accessible by public transportation	22	18	32
Facilities were too far away	24	22	29
Program hours conflicted with work	11	10	13
Programs were full	38	34	48
Programs did not offer the right type of treatment	21	21	23
Changed mind while on waiting list	28	24	39
Could not pay for treatment	44	47	39
Facility could not accommodate your disability	1	1	0
Program involved too much red tape	24	23	26
Program staff could not speak your language	3	4	0
Program was not sensitive to the special needs of women[1]	–	–	6
Program did not offer the special services you needed	14	15	13
Respondents Reported at Least One of the Above Reasons	77	78	74

Note: Asked only of inmates who reported using drugs in the year prior to incarceration and who had not received treatment or assistance during that time.

[1] Question asked of female inmates only.

Source: Missouri Jail Inmate Survey, 2001.

5.5.3 Willingness to Receive Additional Treatment for Substance Use

Study participants who had received treatment or assistance in the year prior to incarceration were asked whether they would have sought additional treatment for their substance use had it been available. (Note: Inmates who reported problems with alcohol use but *not* drugs were not asked about their treatment needs.)

One-half of the inmates who had received treatment reported that they would have been willing to receive additional treatment had it been available (see **Table 5.9**).

5.5.4 Barriers to Receiving Additional Treatment

The inmates were read a list of potential barriers to treatment and asked if any of these barriers had influenced their decision to seek additional treatment in the year before their incarceration. More than 40% of the inmates reported the following barriers: programs were full, programs did not offer the right type of treatment, or they could not pay for treatment.

Of the inmates who expressed a willingness to receive treatment, 88% cited at least one barrier that precluded them from seeking or receiving treatment. (Note: Sample size was too small to conduct analyses by gender.)

Table 5.9 Percentage of the Missouri Jail Inmate Sample Who Would Have Sought Additional Treatment for Their Substance Use If It Had Been Readily Available

	Total n=98 (%)
Willing to Receive Additional Treatment	50
Barriers to Treatment	
Programs were not accessible by public transportation	29
Facilities were too far away	33
Program hours conflicted with work	23
Programs were full	44
Programs did not offer the right type of treatment	44
Changed mind while on waiting list	25
Could not pay for treatment	42
Facility could not accommodate your disability	8
Program involved too much red tape	31
Program staff could not speak your language	6
Program did not offer the special services you needed	27
Respondents Reported at Least One of the Above Reasons	88

Note: Asked only of inmates who had received treatment or assistance in the year prior to incarceration.

Source: Missouri Jail Inmate Survey, 2001.

5.6 Summary

Key findings from this chapter include the following:

- In the year prior to incarceration, more than one-third of the male inmates and one-quarter of the female inmates met the DSM-IV criteria for alcohol dependence. During that same time period, 20% of the males and 9% of the females met the DSM-IV criteria for alcohol abuse.

- More than 40% of the inmates met the DSM-IV criteria for drug dependence, and 10% met the DSM-IV criteria for drug abuse in the year prior to incarceration.

- Fifty-seven percent of the males and 66% of the females met the criteria for lifetime dependence on illicit drugs. Females were also more likely to meet the criteria for illicit drug dependence: 47% of the females compared with 40% of the males, in the year prior to incarceration.

- More than half of the inmates met the criteria for dependence on alcohol *or* illicit drugs in the year prior to incarceration.

- Fifty-three percent of the female inmates and 47% of the male inmates reported having received treatment in their lifetime.

- Eighty-six percent of the inmates were estimated to have needed alcohol or drug treatment or intervention during the year prior to incarceration. This figure is substantially higher than comparable figures for the household population (26%).

- Regression analysis found that for male inmates, factors related to an increased likelihood of meeting the criteria for *alcohol or drug treatment* included the number of drug crimes committed in the year prior to incarceration; having a relative with an alcohol, drug or psychological problem; having a spouse who has been incarcerated; and high scores on the depression scale. Factors that *decreased* the likelihood of need for treatment included having six or more children and having difficulty looking forward to what your life would be like in the future.

- Regression analysis found that for male inmates, factors related to an increased likelihood of meeting the criteria for *alcohol or drug treatment or intervention* included the number of drug crimes committed in the year prior to incarceration; having a spouse/partner with a drug, alcohol, or psychological problem; and inability to remember parts of childhood or certain periods of life. Factors that *decreased* the likelihood of need for treatment included the number of days incarcerated in the year prior to incarceration and having been a victim of sexual abuse.

- Regression analysis found that for female inmates, factors related to an increased likelihood of meeting the criteria for *alcohol or drug treatment* included the number of drug crimes and the number of arrests reported in the year prior to incarceration; having a relative with an alcohol, drug, or psychological problem; and having suicidal ideations. One factor, having three to five children, was associated with a *decrease* in likelihood of meeting the criteria for alcohol or drug treatment.

- Regression analysis found that for female inmates, factors related to an increased likelihood of meeting the criteria for *alcohol or drug treatment or intervention* included the number of drug crimes and the number of arrests reported in the year prior to incarceration; having a relative with an alcohol, drug, or psychological problem; marital status; and difficulty looking to

the future. One variable, race, was found to be associated with a *decreased* need for alcohol or drug treatment or intervention. African American women were *less* likely to meet the criteria for need for treatment or intervention than were White women.

- More than a third (34%) of Missouri jail inmates indicated that they would be willing to receive treatment for their substance use.
- Female inmates (43%) reported higher willingness to receive treatment compared with male inmates (31%).
- Over one-third (34%) of the inmates who reported using drugs in the year prior to incarceration said they would have been willing to receive treatment had it been available.
- One-half of the inmates who had received treatment in the year prior to incarceration reported that they would have been willing to receive additional treatment had it been available.

6. Criminal Activity

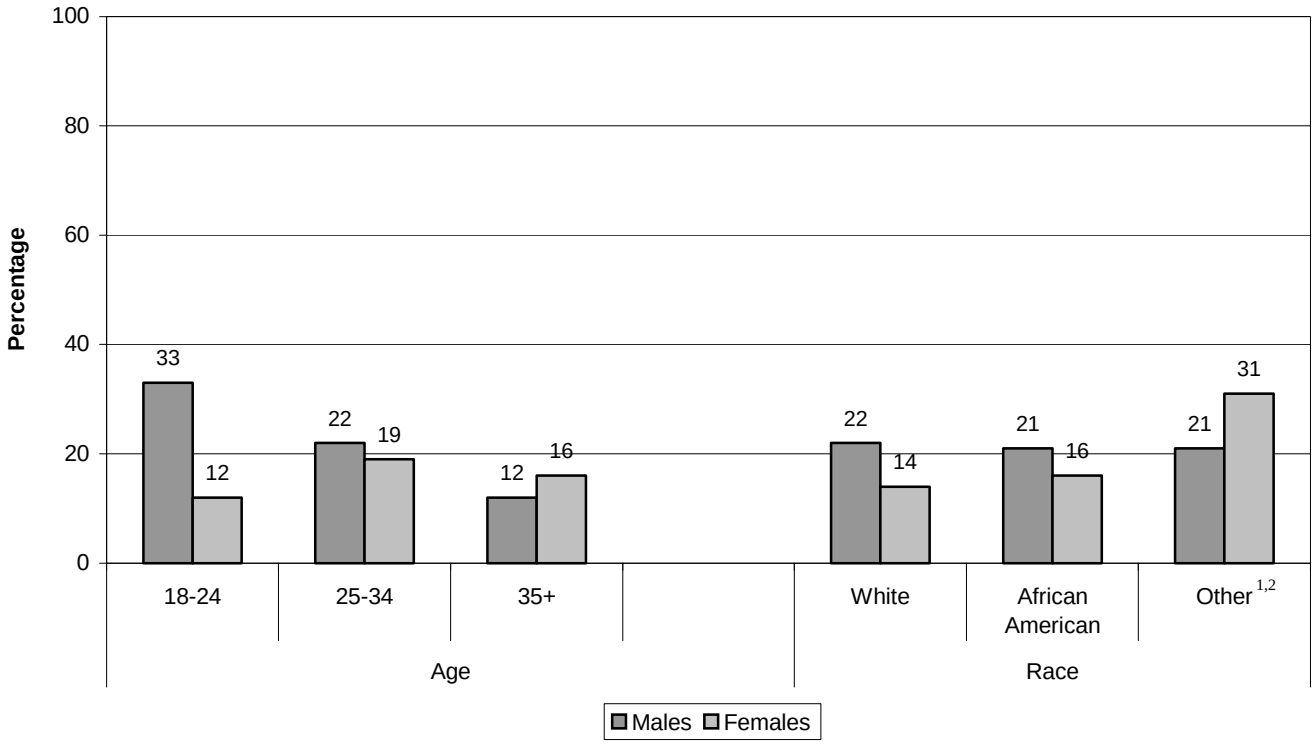
This chapter examines the relationship between violent, property, and drug crimes and age, crimes and gender, and between crimes and race. Violent crimes include murder, attempted murder, rape, robbery, and assault; property crimes include burglary, arson, auto theft, forgery, fraud, larceny, and shoplifting; and drug crimes include trafficking, dealing, and possession. It also examines how alcohol and drug use influence criminal activity.

6.1 Inmates' Characteristics and Criminal Activity

Younger male inmates (less than 35 years old) were more likely than older male inmates (35 and older) to report committing violent crimes in the year prior to incarceration (see **Figure 6.1**). For example, 33% of the male inmates in the 18- to 24-year-old category reported committing a violent crime in the year prior to incarceration compared with 12% of the inmates aged 35 and older. We see the opposite trend with female inmates: inmates aged 18 to 24 were least likely to report committing a violent crime in the year prior to incarceration (12%) compared with females aged 25 to 34 (19%) and females 35 or older (16%).

An analysis of race showed no difference in self-reports of violent crimes in the year prior to incarceration for male inmates across the three race categories (White, African-American, and Other race, which includes inmates who reported being American Indian, Alaska Native, Asian, or other). However, racial differences emerged in self-reported violent crimes for female inmates: White and African American females reported lower rates of violent crime (14% and 16%, respectively) compared with females in the Other race category (31%). (Note: There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.)

Figure 6.1 Percentage of Missouri Jail Inmates Who Reported Committing Violent Crimes in the Year Prior to Incarceration, by Gender, Age, and Race



Note: Violent crimes include murder, attempted murder, rape, robbery, and assault.

[1] Other race includes American Indian, Asian, and other races.

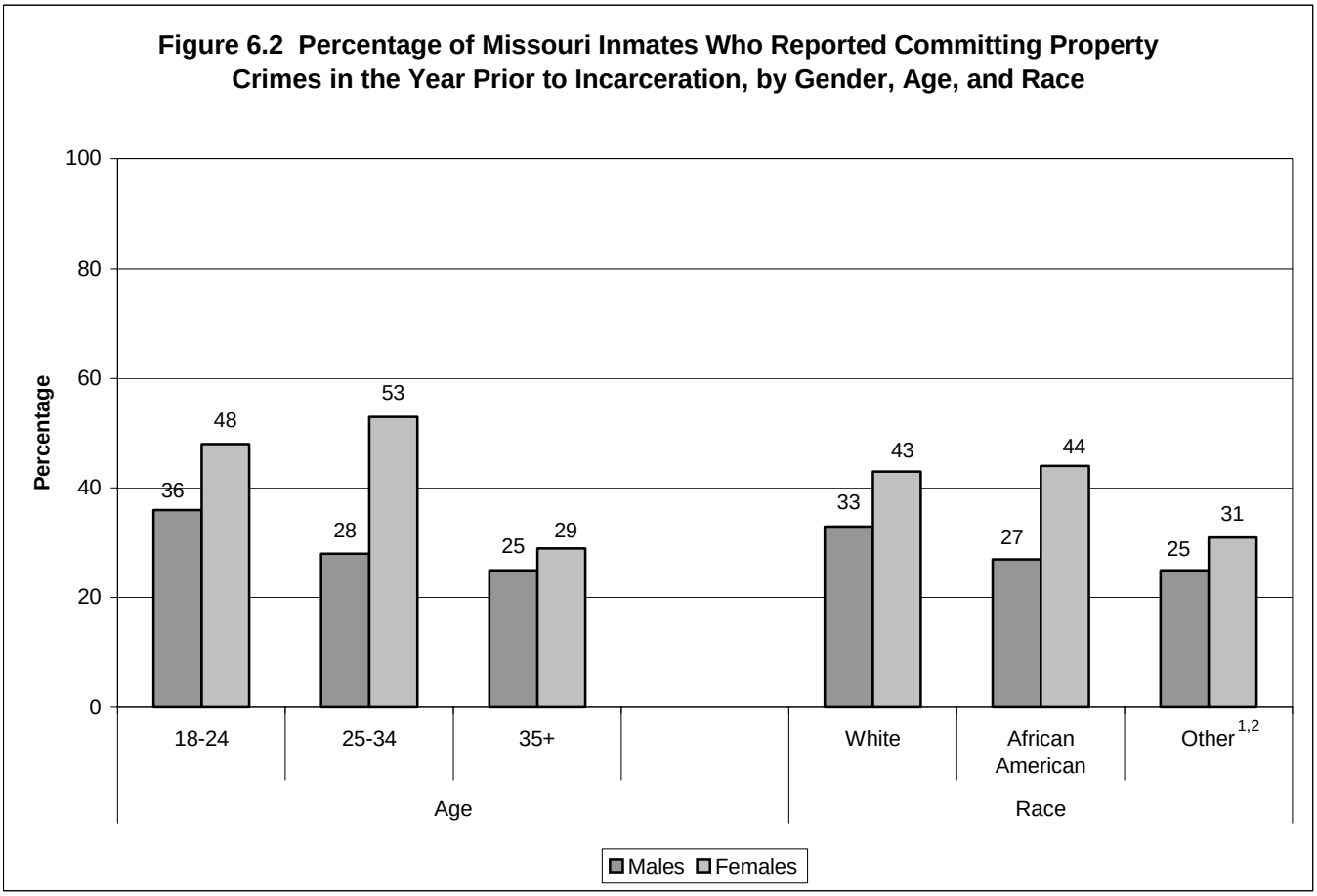
[2] There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.

Source: Missouri Jail Inmate Survey, 2001.

Self-reports of property crimes showed differences by age and race (see **Figure 6.2**). For male inmates, the rates of reported property crimes in the year prior to incarceration decreased with age, from a high of 36% for those aged 18 to 24 to a low of 25% for those older than 35 years. Female inmates aged 35 or older were also less likely to report property crimes (29%) than were females aged 18 to 24 (48%) or those aged 25 to 34 (53%).

White males were more likely to report committing property crimes (33%) than were African American males (27%) or males in the Other race category (25%). For female inmates, there was little difference between rates of property crime for Whites (43%) and African Americans (44%) but lower reported rates for females in the Other race category (31%). (Note: There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.)

Figure 6.2 Percentage of Missouri Inmates Who Reported Committing Property Crimes in the Year Prior to Incarceration, by Gender, Age, and Race



Note: Property crimes include burglary, arson, auto theft, forgery, fraud, larceny, and shoplifting.

[1] Other race includes American Indian, Asian, and other races.

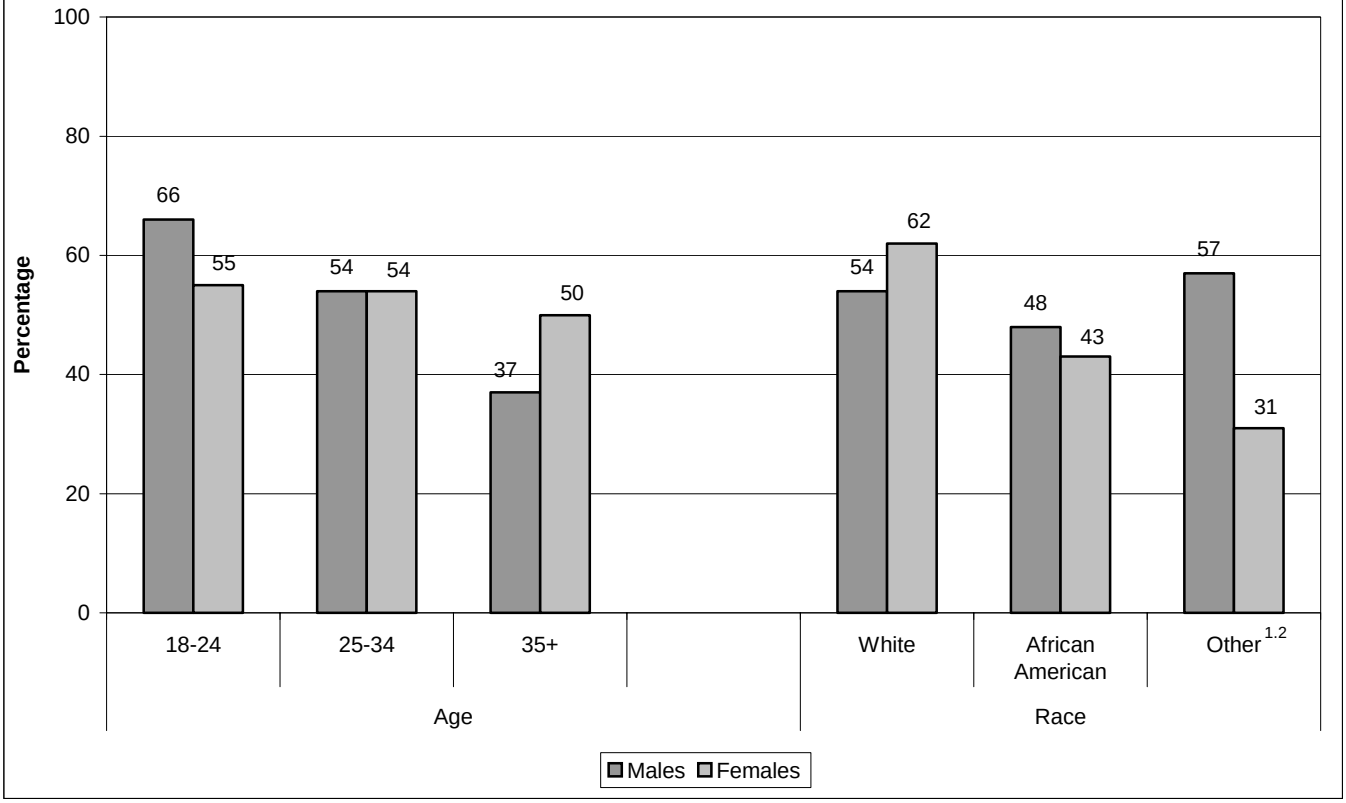
[2] There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.

Source: Missouri Jail Inmate Survey, 2001.

Drug crimes were reported by two-thirds of males in the 18-to-24 age category compared with 54% of the males aged 25 to 34 and 37% of the males aged 35 or older (see **Figure 6.3)**. We found little difference across the three age categories for female inmates: approximately 50% of all females reported committing a drug crime in the year prior to incarceration.

Rates of reported drug crimes for men varied slightly across the three race categories: Whites, 54%; African Americans, 48%; and Other race, 57%. For female inmates, however, Whites (62%) were more likely to report committing drug crimes than were African American women (43%) and women in the Other race category (31%). (Note: There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.)

Figure 6.3 Percentage of Missouri Jail Inmates Who Reported Committing Drug Crimes in the Year Prior to Incarceration, by Gender, Age, and Race



Note: Drug crimes include trafficking, dealing, and possession.

[1] Other race includes American Indian, Asian, and other races.

[2] There were fewer than 20 female inmates in the Other race category, so findings should be interpreted cautiously.

Source: Missouri Jail Inmate Survey, 2001.

6.2 Substance Use and Criminal Activity

Table 6.1 presents findings for the mean number of arrests in the year prior to incarceration by three substance-use categories: heavy alcohol use, illicit drug use, and illicit drug use excluding marijuana. Heavy alcohol use in the year prior to incarceration is defined as weekly consumption of four or more drinks in a 24-hour period for females and weekly consumption of five or more drinks in a 24-hour period for males.

We found little difference in the mean number of arrests in the year prior to incarceration between male inmates who met the criteria for heavy alcohol use in the year prior to incarceration and those who did not: 3.0 and 2.9, respectively. However, female inmates reporting heavy alcohol use reported a higher mean number of arrests than did

female inmates who did not report heavy alcohol use: 3.1 and 2.6, respectively. We conducted further analysis to increase our understanding of the relationship between number of arrests and substance use (see Appendix D).

The reported mean number of arrests was higher for male and female inmates who reported using illicit drugs (see **Table 6.1**) when compared with inmates who did not report use of illicit drugs. Male illicit drug users reported an average of 3.1 arrests in the year prior to incarceration, whereas males who did not report using illicit drugs during that time period reported an average of 2.5 arrests. Female illicit drug users reported an average of 3.5 arrests in the year prior to incarceration, whereas females who did not report using illicit drugs during that time period reported an average of just over 1 arrest.

Similarly, inmates who reported using illicit drugs excluding marijuana in the year prior to incarceration reported an average of 3.4 arrests, whereas inmates who did not report using illicit drugs excluding marijuana reported an average of 2.4 arrests.

Table 6.1 Mean Number of Arrests in the Year Prior to Incarceration Reported by Missouri Jail Inmates by Heavy Alcohol Use, Illicit Drug Use, and Illicit Drug Use Excluding Marijuana

Type of User	Total	Males	Females
Heavy alcohol users[1]	3.0	3.0	3.1
Non-heavy alcohol users	2.8	2.9	2.6
Users of illicit drugs	3.2	3.1	3.5
Nonusers of illicit drugs	2.1	2.5	1.2
Users of illicit drugs excluding marijuana	3.4	3.3	3.7
Nonusers of illicit drugs excluding marijuana	2.4	2.6	1.6

[1] Heavy alcohol use in the year prior to incarceration is defined as weekly consumption of four or more drinks in a 24-hour period for females and weekly consumption of five or more drinks in a 24-hour period for males.

Source: Missouri Jail Inmate Survey, 2001.

The mean number of reported violent crimes in the year prior to incarceration was higher for inmates who met the criteria for heavy alcohol use (see **Table 6.2)**. For example, male heavy alcohol users reported committing an average of 0.9 violent crimes compared with an average of 0.4 violent crimes for males who were not heavy alcohol users. Similarly, male inmates who reported using illicit drugs and illicit drugs excluding marijuana in the year prior to incarceration reported committing more violent crime than did males who did not

Table 6.2 Mean Number of Violent Crimes in the Year Prior to Incarceration Reported by Missouri Jail Inmates by Heavy Alcohol Use, Illicit Drug Use, and Illicit Drug Use Excluding Marijuana

Type of User	Total	Males	Females
Heavy alcohol users[1]	0.8	0.9	0.4
Non-heavy alcohol users	0.3	0.4	0.2
Users of illicit drugs	0.7	0.8	0.4
Nonusers of illicit drugs	0.2	0.3	0.1
Users of illicit drugs excluding marijuana	0.8	1.0	0.4
Nonusers of illicit drugs excluding marijuana	0.3	0.4	0.1

Note: Violent crimes include murder, attempted murder, rape, robbery, and assault.

[1] Heavy alcohol use in the year prior to incarceration is defined as weekly consumption of four or more drinks in a 24-hour period for females and weekly consumption of five or more drinks in a 24-hour period for males.

Source: Missouri Jail Inmate Survey, 2001.

report illicit drug use. This pattern held true for female inmates as well. We conducted further analysis to increase our understanding of the relationship between number of violent crimes and substance use (see Appendix D).

In examining substance use and reported property crimes in the year prior to incarceration, we saw differences by substance categories (see **Table 6.3)**. Inmates who met the criteria for heavy alcohol use reported committing fewer property crimes in the year prior to incarceration than did inmates who did not meet the criteria. This relationship was true for both male and female inmates. For example, female inmates who met the criteria for heavy alcohol use reported committing a mean number of 6.5 property crimes compared with a mean number of 7.9 property crimes for females who were not heavy alcohol users. When we examined illicit drug use, however, we found that drug users reported committing substantially more property crimes than did nonusers. Illicit drug users reported a mean of 7.8 property crimes compared with 0.8 property crimes for nonusers. Similarly, inmates who reported using illicit drugs excluding marijuana in the year prior to incarceration reported committing more property crimes than inmates who did not report illicit drug use: 9.8 and 2.0, respectively. This relationship held true for both male and female inmates. We conducted further analysis to increase our understanding of the relationship between number of property crimes and substance use (see Appendix D).

Table 6.3 Mean Number of Property Crimes in the Year Prior to Incarceration Reported by Missouri Jail Inmates by Heavy Alcohol Use, Illicit Drug Use, and Illicit Drug Use Excluding Marijuana

Type of User	Total	Males	Females
Heavy alcohol users[1]	5.3	4.9	6.5
Non-heavy alcohol users	6.8	6.3	7.9
Users of illicit drugs	7.8	7.1	9.5
Nonusers of illicit drugs	0.8	0.5	1.3
Users of illicit drugs excluding marijuana	9.8	8.9	11.6
Nonusers of illicit drugs excluding marijuana	2.0	2.3	1.2

Note: Property crimes include burglary, arson, auto theft, forgery, fraud, larceny, and shoplifting.

[1] Heavy alcohol use in the year prior to incarceration is defined as weekly consumption of four or more drinks in a 24-hour period for females and weekly consumption of five or more drinks in a 24-hour period for males.

Source: Missouri Jail Inmate Survey, 2001.

Table 6.4 presents the mean number of reported drug crimes by substance use. (Inmates were asked if they had committed drug crimes such as trafficking, dealing, or possession.) For all three categories of substance use (heavy alcohol use, illicit drug use, and illicit drug use excluding marijuana), both male and female users reported committing more drug crimes than did nonusers. Inmates who met the criteria for heavy alcohol use reported an average of approximately 97 drug crimes compared with an average of 88 drug crimes for inmates who did not meet the criteria. The difference in the number of reported drug crimes was even greater for illicit drug users. For example, females who reported using illicit drugs in the year prior to incarceration reported committing a mean of 137 drug crimes. Females who did not report using illicit drugs reported committing a mean of 0.4 drug crimes. We found the same relationship for inmates reporting illicit drug use excluding marijuana. We conducted further analysis to increase our understanding of the relationship between number of drug crimes and substance use (see Appendix D).

Table 6.4 Mean Number of Drug Crimes in the Year Prior to Incarceration Reported by Missouri Jail Inmates by Heavy Alcohol Use, Illicit Drug Use, and Illicit Drug Use Excluding Marijuana

Type of User	Total	Males	Females
Heavy alcohol users[1]	97.4	94.0	108.1
Non-heavy alcohol users	88.1	88.2	87.7
Users of illicit drugs	122.8	117.5	137.1
Nonusers of illicit drugs	8.4	12.1	0.4
Users of illicit drugs, excluding marijuana	145.6	143.8	149.3
Nonusers of illicit drugs, excluding marijuana	40.7	44.6	28.9

Note: Drug crimes include trafficking, dealing, and possession.

[1] Heavy alcohol use in the year prior to incarceration is defined as weekly consumption of four or more drinks in a 24-hour period for females and weekly consumption of five or more drinks in a 24-hour period for males.

Source: Missouri Jail Inmate Survey, 2001.

In exploring the relationship between crime and need for treatment or intervention, we examined the mean number of drug crimes reported in the year prior to incarceration for inmates who met the criteria for need for treatment *or* intervention and for those who did not (see **Table 6.5).** Inmates who met the criteria for need for alcohol or drug treatment *or* intervention reported committing more drug crimes compared with inmates who did not meet the criteria, 107.4 and 9.5, respectively. This relationship held true for both male and female inmates.

Table 6.5 Mean Number of Drug Crimes in the Year Prior to Incarceration Reported by Missouri Jail Inmates and Need for Alcohol or Drug Treatment or Intervention

Need for Treatment or Intervention	Total	Males	Females
Met criteria	107.4	102.7	120.5
Did not meet criteria	9.5	8.6	10.9

Note: Drug crimes include trafficking, dealing, and possession.

Source: Missouri Jail Inmate Survey, 2001.

6.3 Instant Offense and Substance Use

This section presents information on substance use and instant offense (the offense that led to the inmate's current incarceration). As shown in **Table 6.6**, approximately half (49%) of Missouri jail inmates reported being high or drunk (intoxicated) when they committed their instant offense. Of the male inmates who reported being high, most reported being high on alcohol (57%), marijuana (36%), crack (16%), or

amphetamine (16%). Female inmates were most likely to report being high on alcohol (44%), followed by crack (36%) and amphetamine (26%).

Inmates who reported being high or drunk when they committed their instant offense were asked *how* high or drunk they were, and 55% indicated that they were *very* high or drunk. When asked whether they would have committed their instant offense had they not been high or drunk, 65% of the male inmates and 66% of the female inmates indicated that they would not have committed the crime (had they not been high or drunk).

Table 6.6 Substance Use and Instant Offense among the Missouri Jail Inmate Sample

	Total (%)	Males (%)	Females (%)
Were You High When You Committed the Instant Offense?	49	52	41
What Substance Were You High On?			
Alcohol	54	57	44
Marijuana	30	36	11
Hallucinogens	6	6	7
Powder cocaine	8	8	7
Crack cocaine	21	16	36
Heroin	7	7	7
Amphetamine	18	16	26
Inhalants	1	1	2
How High Were You When You Committed the Instant Offense?			
Very high or drunk	55	56	52
Somewhat high or drunk	21	21	20
A little high or drunk	14	15	11
Barely high or drunk (coming down)	10	7	16
Would You Have Committed the Instant Offense If You Were NOT High? (Percentage Answering No)	65	65	66

Note: Instant offense refers to the offense that led to the inmate's current incarceration.

Source: Missouri Jail Inmate Survey, 2001.

6.4 Committing Crime to Pay for Drugs

Missouri jail inmates were asked about the types of crimes they had committed in the year prior to incarceration to acquire money to pay for their personal drug use. As indicated in **Table 6.7**, males reported committing a mean of 0.9 violent crimes to pay for drugs compared with 0.1 reported violent crimes for females. Inmates were much more likely to report committing property crimes to pay for drugs: males reported an average of 9.4, and females reported an average of 11.2 property crimes. The mean number of times inmates reported selling drugs to

pay for their personal drug use was higher than reports of committing violent or property crimes for the same purpose. Male inmates reported a mean of 45.3 drug sales, and female inmates reported a mean of 28.6.

Table 6.7 Crimes Committed to Finance Personal Drug Use among the Missouri Jail Inmate Sample

Crime (mean number)	Total	Males	Females
Violent crimes[1]	0.7	0.9	0.1
Property crimes[2]	9.9	9.4	11.2
Drug sales	40.5	45.3	28.6

[1] Violent crimes include murder, attempted murder, rape, robbery, and assault.
[2] Property crimes include burglary, arson, auto theft, forgery, fraud, larceny, and shoplifting.

Source: Missouri Jail Inmate Survey, 2001.

Male inmates were much more likely to report threatening violence because they were high on drugs or alcohol (mean of 4.8) compared with female inmates (mean of 2.2) (see **Table 6.8**). When asked the number of times they got high to commit a crime, females reported a mean of 8.9, and males reported a mean of 7.2.

Table 6.8 Influence of Substance Use on Criminal Activity among the Missouri Jail Inmate Sample

Crime (mean number)	Total	Males	Females
Threatened violence because high on drugs or alcohol	4.0	4.8	2.2
Got high to commit a crime	7.7	7.2	8.9

Source: Missouri Jail Inmate Survey, 2001.

We examined the temporal relationship between onset of drug use and onset of criminal behavior (see **Table 6.9**). Missouri jail inmates who indicated that they had used drugs were asked which behavior came first: using drugs or committing crime. Seventy-two percent of the inmates indicated that they had started using drugs *before* they started committing crime. Females were more likely than males to start using drugs before committing crimes, 76% and 70%, respectively. A quarter (26%) of the inmates reported that they had begun committing crime before they started using drugs, and less than 5% indicated they had started using drugs and committing crime at about the same time.

Table 6.9 Temporal Relationship Between Onset of Drug Use and Criminality among the Missouri Jail Inmate Sample

Temporal Relationship	Total (%)	Males (%)	Females (%)
Started using drugs before committing crime	72	70	76
Started committing crime before using drugs	25	26	22
Started using drugs and committing crime at about the same time	3	4	1

Source: Missouri Jail Inmate Survey, 2001.

6.5 Multivariate Analyses of the Relationship Between Crime and Substance Use

To determine what factors independently affected violent, property, and drug crime, we ran multivariate regressions by gender (a total of six models). The dependent variables were (1) the number of violent crimes committed in the year prior to incarceration, (2) the number of property crimes committed in the year prior to incarceration, and (3) the number of drug crimes committed in the year prior to incarceration. Approximately 50 independent variables were inserted into the models, including demographic items (such as age, race, gender, education, employment status, and marital status), criminal history indicators, family and peer characteristics, measures of physical and mental health, and alcohol and drug use. The models were then put through forward-entry procedure in which variables were entered one at a time, based on a designated significance value of 0.05. The procedure ceased when SAS determined that no additional variables would explain a significant portion of the variance.

Several variables (site, age, race, education, and time incarcerated in the year prior to the current incarceration) were added back into the models because of interest in their relationship to the dependent variables. Site, race, and education were coded as dummy variables. The reference category for site is St. Louis County, for race it is White, and for education it is non-high school graduate. Reference categories for race and site were based on sample size. Whites were the predominant racial group for all inmates, and St. Louis County jail inmates made up the largest segment of the sample. Age (measured in years) and time incarcerated in the year prior to incarceration (measured in days) were coded as continuous variables. [Note: Additional information regarding the regression models is included in the footnotes for each table.]

The first model regresses the number of violent crimes reported by male inmates in the year prior to incarceration on demographic and behavioral variables (see **Table 6.10**). Education played a significant role in violent crime. Male high school graduates reported committing 0.70 *fewer* violent crimes in the year prior to incarceration than did males who did not complete high school. Other variables that were significantly related to violent crime included property crimes, residence, and reporting being beaten or seriously physically hurt by an adult. An increase in the number of property crimes committed in the year prior to incarceration was associated with an increase in the number of violent crimes reported in the year prior to incarceration. For each additional property crime reported, the number of violent crimes reported increased by a factor of 0.01. Residence was also associated with an increase in violence; that is, male inmates who reported residing in a hospital, jail, or shelter or having no fixed residence reported committing 2.5 more violent crimes in the year prior to incarceration than did males who resided in a house or apartment. Male inmates who reported having been beaten or physically injured by an adult reported committing 0.99 more violent crimes in the year prior to incarceration than did males who did not report being beaten.

The second model regresses the number of property crimes reported by male inmates in the year prior to incarceration on demographic and behavioral variables (see **Table 6.10**). Variables significantly related to an increase in property crimes included drug crimes; having a relative with an alcohol, drug, or psychological problem; and powder cocaine use. For each additional drug crime reported in the year prior to incarceration, the number of reported property crimes increased by a factor of 0.04. Male inmates who reported having a relative with an alcohol, drug, or psychological problem reported committing 7 more property crimes in the year prior to incarceration compared with males who did not report having a relative with these problems. Males who reported powder cocaine use in the year prior to incarceration reported committing 10 more property crimes in the year prior to incarceration than did males who did not report powder cocaine use during that period. One variable was associated with a decrease in reported property crime: mental health diagnosis. Male inmates who reported ever having received a mental health diagnosis from a medical professional reported committing 8 fewer property crimes in the year prior to incarceration than male inmates who did not receive a mental health diagnosis.

The third model regresses the number of drug crimes committed by male inmates in the year prior to incarceration on demographic and behavioral variables (see **Table 6.10**). For drug crimes, site played a role. Male inmates in the Greene County jail reported committing 45 more drug crimes in the year prior to incarceration compared with inmates in the St. Louis County jail. Race was also found to be significantly related to reported drug crimes: male inmates in the Other race category reported committing 71 more drug crimes in the year prior to incarceration than White males. We also found a significant relationship between property crime and drug crime. Males who reported committing property crimes in the year prior to incarceration reported committing 0.94 more drug crimes during that period. As seen with violent crimes, living arrangements were associated with an increase in drug crimes. Male inmates who reported residing in a hospital, jail, or shelter or having no fixed residence reported committing 138 more drug crimes in the year prior to incarceration than did males who resided in a house or apartment. Drug use (marijuana, hallucinogens, and amphetamine) was significantly related to drug crimes in the year prior to incarceration. Males who reported marijuana use in the year prior to incarceration reported committing 48 more drug crimes during that period. Similarly, males who reported hallucinogen use reported committing 67 more drug crimes, and males who reported amphetamine use reported committing 90 more drug crimes.

Table 6.10 Multivariate Regression Findings for the Male Missouri Jail Inmate Sample: Number of Violent, Property, and Drug Crimes Reported in the Year Prior to Incarceration

	Violent Crimes		Property Crimes		Drug Crimes	
Variable	**b**	**95% Confidence Interval**	**b**	**95% Confidence Interval**	**b**	**95% Confidence Interval**
Greene County jail inmates[1]	.05	-.85 – .95	-5.72	-14.63 – 3.18	45.13*	.14 – 90.12
Jackson County jail inmates[1]	-.45	-1.30 – .41	-2.24	-10.70 – 6.21	26.51	-15.08 – 68.09
Boone County jail inmates[1]	.26	-1.37 – .85	-2.20	-13.10 – 8.70	-27.84	-81.75 – 26.07
Age[2]	-.03	-.06 – .004	.24	-0.10 – .57	-.66	-2.51 – 1.18
High school graduate	-.70*	-1.39 – .01	-2.40	-9.16 – 4.37	.95	-32.71 – 34.62
African American	.14	-0.61 – .89	-1.67	-9.08 – 5.74	28.69	-9.38 – 66.77
Other race[1, 3]	-.47	-1.90 – .95	-7.56	-21.52 – 6.40	70.92*	2.01 – 139.83
Time incarcerated (py[2, 4])	.001	-.002 – .005	.02	-0.02 – .06	.07	-.12 – .26
Property crimes (py[2, 4])	.01*	.0008 – .02	–	–	.94***	.39 – 1.49
Drug crimes (py[2, 4])	–	–	.04***	.02 – .06	–	–
Residence (other)[3] (py[4])	2.51**	.76 – 4.24	–	–	138.43**	54.18 – 222.68
Ever physically beaten by adult	.99**	.28 – 1.71	–	–	–	–
Relative with an alcohol, drug, or psychological problem	–	–	7.30*	.51 – 14.10	–	–
Received a mental health diagnosis	–	–	-8.35*	-14.88 – 1.82	–	–
Marijuana use (py[4])	–	–	–	–	47.64*	10.65 – 84.63
Powder cocaine use (py[4])	–	–	10.52*	2.39 – 18.65	–	–
Hallucinogen use (py[4])	–	–	–	–	67.08**	17.49 – 116.67
Amphetamine use (py[4])	–	–	–	–	90.41***	42.99 – 137.84
R-squared	.104		.118		.275	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

[1] Reference categories for multilevel categorical variables are: Jail inmates = St. Louis County inmates, and Race = White.
[2] Ages ranged from 0 to 80 years; time incarcerated ranged from 0 to 365 days; property crimes ranged from 0 to 200; and drug crimes ranged from 0 to 500.
[3] There were fewer than 20 cases in this category, so findings should be interpreted cautiously.
[4] py connotes the year prior to incarceration.

Source: Missouri Jail Inmate Survey, 2001.

We also ran multivariate regression analysis for female inmates (see **Table 6.11**). The first model regresses the number of violent crimes reported in the year prior to incarceration on demographic and behavioral variables. The number of reported arrests in the year prior to incarceration was found to be significant; for each additional arrest reported, the number of violent crimes reported in the year prior to incarceration increased by a factor of 0.06. Hallucinogen use was also significantly related to reported drug crimes. Females who reported using hallucinogens in the year prior to incarceration reported committing 0.64 more violent crimes during that period than did females who did not report hallucinogen use. Women who reported having one to two children reported 0.27 more violent crimes in the year prior to incarceration than did women who reported having no children. We found no significant relationship for those women who had more than two children. The last variable we found to be related to reported violent crime was hallucinations. Females who reported sometimes or frequently experiencing hallucinations in the year prior to incarceration reported committing 0.54 more violent crimes during that time period compared with females who reported experiencing hallucinations either never or rarely.

The second model regresses the number of property crimes reported in the year prior to incarceration on demographic and behavioral variables (see **Table 6.11**). For female inmates, one of the demographic variables–age–was significantly related to reported property crimes. For each yearly increase in age, the number of property crimes reported in the year prior to incarceration *decreased* by a factor of 0.77. Two variables were significantly and positively related to property crimes. For each additional arrest in the year prior to incarceration, the number of reported property crimes increased by a factor of 1.5. Females who reported using amphetamine in the year prior to incarceration reported committing 17 more property crimes during that time period than did females who did not report using amphetamine (in the year prior to incarceration).

The third and final model regresses the number of reported drug crimes in the year prior to incarceration on demographic and behavioral variables (see **Table 6.11**). For female inmates, site was significantly related to reported drug crimes. Females in Greene County reported committing 96 more drug crimes in the year prior to incarceration than did female inmates in the St. Louis County jail. Similarly, female inmates in Jackson County reported committing over 100 more drug crimes than did females in St. Louis County. Several other variables

were found to significantly increase the number of reported drug crimes. Females who reported residing in a hospital, jail, or shelter, or having no fixed residence in the year prior to incarceration reported committing 101 more drug crimes in the year prior to incarceration than females who resided in a house or apartment during that time. Drug use, specifically crack, amphetamine, and heroin use, was found to significantly increase reported drug crimes in the year prior to incarceration. Women who reported using crack during that time reported committing 66 more drug crimes compared with women who did not report crack use (in the year prior to incarceration). Similarly, females who reported amphetamine use reported committing 91 more drug crimes, and females who reported heroin use reported 148 more drug crimes in the year prior to incarceration than did females who did not report using these drugs.

Women who reported feeling anxious or tense sometimes or frequently in the year prior to incarceration reported committing 74 more drug crimes in the year prior to incarceration than women who reported never or rarely feeling anxious or tense during that time period. Females who rated their physical health as poor, fair, or good in the year prior to incarceration reported committing 90 more drug crimes than females who rated their physical health as very good or excellent. One of the demographic variables, age, was found to be significantly related to a decrease in the number of reported drug crimes. For each yearly increase in age, the number of drug crimes reported in the year prior to incarceration *decreased* by a factor of 4.77. One other variable was also associated with a decrease in reported drug crimes: mental health diagnosis. Female inmates who reported having ever received a mental health diagnosis from a medical professional reported committing 57 *fewer* drug crimes in the year prior to incarceration compared with female inmates who had never received a mental health diagnosis.

Table 6.11 Multivariate Regression Findings for the Female Missouri Jail Inmate Sample: Number of Violent, Property, and Drug Crimes Reported in the Year Prior to Incarceration

	Violent Crimes		Property Crimes		Drug Crimes	
Variable	b	95% Confidence Interval	b	95% Confidence Interval	b	95% Confidence Interval
Greene County jail inmates[1]	.10	-.29 – .49	1.05	-12.59 – 14.68	96.20**	30.48 – 161.92
Jackson County jail inmates[1]	.09	-.26 – .43	-2.25	-14.50 – 9.99	107.37***	48.58 – 166.16
Boone County jail inmates[1]	.31	-.09 – .71	.47	-13.63 – 14.57	39.47	-28.67 – 107.62
Age[2]	.01	-.001 – .03	-.77**	-1.31 – -.22	-4.77***	-7.46 – -2.08
High school graduate	-.01	-.29 – .27	-1.25	-10.86 – 8.36	32.67	-13.62 – 78.96
African American	.17	-.14 – .48	.77	-10.83 – 12.38	2.97	-52.75 – 58.70
Other race[3]	.19	-.27 – .66	-8.70	-25.20 – 7.81	-66.79	-145.66 – 12.08
Number of arrests (py[2, 4])	.06***	.03 – .08	1.50**	.59 – 2.40	–	–
Time incarcerated (py[2, 4])	.00002	-.002 – .002	.05	-.009 – .11	.21	-.08 – .49
Residence (other)[3]	–	–	–	–	101.54*	16.46 – 186.62
Crack use (py[4])	–	–	–	–	65.97*	14.85 – 117.08
Hallucinogen use (py[4])	.64**	.21 – 1.07	–	–	–	–
Amphetamine use (py[4])	–	–	17.16**	5.54 – 28.78	91.20**	33.65 – 148.76
Heroin use (py[4])	–	–	–	–	147.64***	66.21 – 229.08
1–2 children[1]	.27*	.002 – .54	–	–	–	–
Experienced hallucinations (py[4])	.54**	.16 – .92	–	–	–	–
Received a mental health diagnosis	–	–	–	–	-56.87*	-105.19 – -8.54
Experienced anxiety/tension (py[4])	–	–	–	–	74.55**	18.34 – 130.77
Physical health (good, fair, or poor) (py[4])	–	–	–	–	90.62***	46.30 – 134.95
R-squared	.332		.224		.543	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[1] Reference categories for multilevel categorical variables are: Jail inmates = St. Louis County inmates; Race = White; and Number of Children = None.
[2] Age ranged from 18 to 55 years; arrests ranged from 0 to 35; and time incarcerated ranged from 0 to 365 days.
[3] There were fewer than 20 cases in this category, so findings should be interpreted cautiously.
[4] py connotes the year prior to incarceration.

Source: Missouri Jail Inmate Survey, 2001.

6.6 Summary

- Younger male inmates (less than 35 years old) were more likely than older male inmates (35 and older) to report committing violent crimes in the year prior to incarceration.
- Female inmates aged 18 to 24 years were least likely to report committing a violent crime in the year prior to incarceration (12%) compared with females aged 25 to 34 years (19%) and females 35 years or older (16%).
- Self-reports of property crimes showed differences by age and race.
- Drug crimes were reported by almost 70% of males in the 18- to 24-year-old age category compared with 54% of the males aged 25 to 34 and 37% of the males aged 35 or older.
- Approximately 50% of females reported committing a drug crime in the year prior to incarceration.
- The mean number of arrests was higher for both male and female inmates who reported use of heavy alcohol, illicit drugs, and illicit drugs excluding marijuana in the year prior to incarceration.
- The mean number of reported violent crimes was higher both for male and female inmates who reported use of heavy alcohol, illicit drugs, and illicit drugs excluding marijuana in the year prior to incarceration.
- The pattern for property crimes differed in that the number of property crimes was *lower* for both male and female inmates who reported use of heavy alcohol. The mean number of property crimes was higher for male and female inmates who reported use of illicit drugs and illicit drugs excluding marijuana in the year prior to incarceration compared with nonusers.
- The mean number of reported drug crimes was higher for both male and female inmates who reported use of heavy alcohol, illicit drugs, and illicit drugs excluding marijuana in the year prior to incarceration.
- Inmates who met the criteria for need for alcohol or drug treatment or intervention reported considerably higher numbers of drug crimes in the year prior to incarceration than did inmates

who did not meet the criteria for need for alcohol or drug treatment or intervention.

- Almost half (49%) of the inmates reported that they were high on drugs or alcohol when they committed the instant offense, and about two-thirds (65%) reported that they would not have committed the offense had they not been high.

- Females reported getting high on drugs or alcohol in order to commit a crime more often than did their male counterparts.

- Regression analyses found that for male inmates, factors related to an increase in the number of *violent crimes* reported in the year prior to incarceration included not having graduated from high school; committing more property crimes in the year prior to incarceration; reporting being beaten or seriously physically hurt by an adult; and residing in a hospital, jail, or shelter or having no fixed residence.

- Regression analyses found that for male inmates, factors related to an increase in the number of *property crimes* reported in the year prior to incarceration included committing more drug crimes in the year prior to incarceration; having a relative with an alcohol, drug, or psychological problem; and using powder cocaine in the year prior to incarceration. One factor was associated with a *decrease* in reported property crime: ever having received a mental health diagnosis.

- Regression analyses found that for male inmates, factors related to an increase in the number of *drug crimes* reported in the year prior to incarceration included site (inmates in Greene County were more likely to report having committed a drug crime compared with inmates in St. Louis County); inmates of Other races (non-Whites and non-African Americans); committing more property crimes in the year prior to incarceration; residing in a hospital, jail, or shelter or having no fixed residence; and reporting use of marijuana, hallucinogens, or amphetamine in the year prior to incarceration.

- Regression analysis found that for female inmates, factors related to an increase in the number of *violent crimes* reported in the year prior to incarceration included the number of reported arrests in the year prior to incarceration; hallucinogen use in the year prior to incarceration; having one to two children (compared with having no children); and having sometimes or frequently experienced hallucinations.

- Regression analysis found that for female inmates, factors related to an increase in the number of *property crimes* reported in the year prior to incarceration included reported arrests and reported use of amphetamine in the year prior to incarceration.

- Regression analysis found that for female inmates, factors related to an increase in the number of *drug crimes* reported in the year prior to incarceration included site (females in Greene County and Jackson County were more likely to report having committed a drug crime compared with inmates in St. Louis County); residing in a hospital, jail, or shelter or having no fixed residence in the year prior to incarceration; crack, amphetamine, and heroin use in the year prior to incarceration; feelings of anxiety or tension sometimes or frequently in the year prior to incarceration; and poor physical health. Variables found to be significantly related to a *decrease* in the number of reported drug crimes included age and having ever received a mental health diagnosis.

7. Need for Alcohol or Drug Treatment or Intervention and Criminal Activity

This section discusses the relationship between need for alcohol or drug treatment and criminal activity and need for treatment *or* intervention and criminal activity. As noted earlier, need for treatment is defined as meeting the criteria for dependence or abuse for alcohol or drugs in the year prior to incarceration; and need for treatment *or* intervention is defined as meeting the criteria for lifetime dependence or abuse for alcohol or drugs *and* having used alcohol or drugs in the year prior to incarceration.

We found little difference between the *number* of arrests reported by male inmates in need of alcohol or drug treatment and those not in need of treatment for two arrest categories: no arrests and for one to five arrests (see **Table 7.1)**. However, males in need of treatment were more likely to report six or more arrests (12%) than were males who did not need treatment (8%). Ninety-six percent of the female inmates in need of treatment reported being arrested at least once in the year prior to their current incarceration, compared with 75% of those who did not need treatment. Overall, inmates estimated to be in need of treatment were more likely to report involvement with the criminal justice system; that is, the *mean* number of arrests was higher for inmates in need of treatment (X=3.4) than for inmates not in need of treatment (X=1.9).

Table 7.1 Percentage of the Missouri Jail Inmate Sample Who Were Estimated to Be in Need of Alcohol or Drug Treatment in the Year Prior to Incarceration, by Number of Arrests

	Need for Treatment					
	Total		Males		Females	
Number of Arrests	Yes (n=342)	No (n=174)	Yes (n=250)	No (n=118)	Yes (n=92)	No (n=56)
0	5%	11%	5%	5%	4%	25%
1–5	82%	83%	83%	87%	80%	75%
6+	13%	5%	12%	8%	16%	0%
Mean Number	3.4	1.9	3.3	2.2	3.8	1.3

Note: Need for treatment is defined as meeting DSM-IV criteria for dependence or abuse for alcohol or drugs in the year prior to incarceration.

Source: Missouri Jail Inmate Survey, 2001.

We also examined the relationship between arrests and need for treatment *or* intervention (see **Table 7.2)**. Males in need of treatment *or* intervention and those not in need were quite similar in the *number* of reported arrests. For example, 84% of males both in need of treatment *or* intervention and those not in need reported one to five arrests in the year prior to their incarceration. Females in need of treatment *or* intervention, however, were more likely to report being arrested in the year prior to incarceration compared with those who were not in need, 93% and 67%, respectively. As seen with arrests and treatment need, male and female inmates in need of treatment *or* intervention reported a higher *mean* number of arrests than did inmates who were not in need of treatment *or* intervention.

Table 7.2 Percentage of the Missouri Jail Inmate Sample Who Were Estimated to Be in Need of Alcohol or Drug Treatment or Intervention in the Year Prior to Incarceration, by Number of Arrests

	Need for Treatment or Intervention					
	Total		Males		Females	
Number of Arrests	Yes (n=442)	No (n=75)	Yes (n=324)	No (n=44)	Yes (n=118)	No (n=31)
0	5%	17%	5%	7%	7%	32%
1–5	83%	77%	84%	84%	80%	67%
6+	11%	5%	11%	9%	13%	0%
Mean Number	3.2	1.6	3.1	2.0	3.3	0.9

Note: Need for treatment *or* intervention is defined as meeting the criteria for lifetime dependence or abuse for alcohol or drugs *and* having used alcohol or drugs in the year prior to incarceration.

Source: Missouri Jail Inmate Survey, 2001.

In examining the relationship between alcohol or drug treatment need and specific types of crime, we found that in the year prior to incarceration, inmates estimated to be in need of treatment reported higher mean numbers across all crime categories (see **Table 7.3**). For example, the mean number of drug crimes reported by inmates in need of treatment averaged over 100 compared with an average of 33 crimes for those inmates not in need of treatment. The *number* of crimes committed was also higher for inmates in need of treatment, and this held true for the three categories of crime. Specifically, in the case of drug crimes, almost half (49%) of the inmates in need of treatment reported committing more than six drug crimes in the year prior to incarceration, compared with 16% of the inmates who were not in need of treatment.

Table 7.3 Number of Crimes and Percentage of the Missouri Jail Inmate Sample Estimated to Be in Need of Alcohol or Drug Treatment in the Year Prior to Incarceration

	Need for Treatment					
	Total		Males		Females	
Number of Crimes	Yes (n=342	No (n=174)	Yes (n=250)	No (n=118)	Yes (n=92)	No (n=56)
Violent Crimes[1]						
0	76%	89%	75%	87%	77%	95%
1–5	22%	10%	21%	13%	23%	5%
6+	2%	1%	3%	1%	0%	0%
Mean Number	0.7	0.2	0.9	.30	.40	0.1
Property Crimes[2]						
0	60%	81%	63%	86%	50%	71%
1–5	25%	14%	23%	9%	29%	25%
6+	15%	5%	13%	5%	21%	4%
Mean Number	8.0	2.1	6.9	2.7	11.1	0.7
Drug Crimes[3]						
0	38%	69%	41%	67%	32%	72%
1–5	12%	15%	10%	15%	17%	15%
6+	49%	16%	49%	18%	51%	13%
Mean Number	123.6	33.0	116.5	38.6	143.0	21.1

Note: Need for treatment is defined as meeting DSM-IV criteria for dependence or abuse for alcohol or drugs in the year prior to incarceration.

[1] Violent crimes include murder, attempted murder, rape, robbery, and assault.
[2] Property crimes include burglary, arson, auto theft, forgery, fraud, larceny, and shoplifting.
[3] Drug crimes include trafficking, dealing, and possession.

Source: Missouri Jail Inmate Survey, 2001.

We also examined the relationship between need for alcohol or drug treatment *or* intervention and crime in the year prior to incarceration (see **Table 7.4**). The mean number of violent crimes reported remained higher for inmates in need of treatment *or* intervention compared with inmates who did not need services. Twenty percent of the female inmates in need of treatment *or* intervention reported violent criminal activity in the year prior to incarceration compared with no reported violent crimes for females who did not meet the criteria for treatment *or* intervention. Self-reports of property and drug crimes were also much higher for inmates who were deemed to be in need of treatment *or* intervention.

Table 7.4 Number of Crimes and Percentage of the Missouri Jail Inmate Sample Estimated to Be in Need of Alcohol or Drug Treatment or Intervention in the Year Prior to Incarceration

	Need for Treatment or Intervention					
	Total		Males		Females	
Number of Crimes	Yes (n=442)	No (n=75)	Yes (n=324)	No (n=44)	Yes (n-118)	No (n=31)
Violent Crimes[1]						
0	79%	88%	79%	80%	80%	100%
1–5	19%	11%	19%	18%	20%	0%
6+	2%	1%	2%	2%	0%	0%
Mean Number	0.6	0.2	0.7	0.4	0.4	0.0
Property Crimes[2]						
0	65%	80%	68%	88%	56%	68%
1–5	22%	17%	20%	7%	26%	32%
6+	13%	3%	12%	5%	18%	0%
Mean Number	6.9	0.6	6.2	0.8	9.0	0.4
Drug Crimes[3]						
0	43%	83%	44%	84%	38%	81%
1–5	13%	15%	12%	14%	16%	16%
6+	44%	3%	44%	2%	45%	3%
Mean Number	107.4	9.6	102.7	8.6	120.5	10.9

Note: Need for treatment *or* intervention is defined as meeting the criteria for lifetime dependence or abuse for alcohol or drugs *and* having used alcohol or drugs in the year prior to incarceration.

[1] Violent crimes include murder, attempted murder, rape, robbery, and assault.
[2] Property crimes include burglary, arson, auto theft, forgery, fraud, larceny, and shoplifting.
[3] Drug crimes include trafficking, dealing, and possession.

Source: Missouri Jail Inmate Survey, 2001.

7.1 Summary

- The mean number of reported arrests was higher for inmates in need of alcohol or drug treatment compared with those not in need of treatment. Likewise, the mean number of arrests was higher for inmates in need of treatment *or* intervention compared with inmates not in need of treatment *or* intervention.

- The mean number of crimes committed—violent, property, and drug crimes, respectively—was higher among Missouri jail inmates in need of treatment, as well as treatment *or* intervention, compared with inmates not in need of treatment or treatment *or* intervention. For example, 57% of inmates in need of treatment reported committing a drug crime, whereas 17% of those not in need reported committing a drug crime.

8. Summary and Implications

8.1 Use of the Survey Results

This study was designed to assess substance use and treatment needs among Missouri jail inmates. The State will use the results to (1) better understand substance use and need for treatment and intervention among Missouri jail inmates, and (2) help inform policy makers about the substance abuse and treatment needs of Missouri jail inmates. The Division of Alcohol and Drug Abuse will use the results from this study in conjunction with the findings from the other studies conducted as part of Missouri's State Treatment Needs Assessment Project.

8.2 Important Findings

8.2.1 Substance Use

Inmates reported higher rates of both licit and illicit substance use than did household respondents. Inmates were much more likely to be current smokers (70%) than were household respondents (26%). Past month heavy alcohol use was also substantially more prevalent among inmates (44%) than among household respondents (6%).

Similarly, inmates reported higher rates of past month illicit drug use (67%) than did household respondents (4%). In fact, less than 5% of the household respondents reported using any illicit drug during the past month. Inmates' reports of past month use, on the other hand, ranged from 7% for heroin/opiate use to 53% for marijuana.

8.2.2 Need for Treatment or Intervention

Missouri jail inmates had substantially higher rates of need for alcohol or drug treatment or intervention than did adults in the general household population. Eighty-eight percent of the male inmates and 79% of the female inmates met the criteria for need for alcohol or drug treatment or intervention in the year prior to incarceration compared with 26% of household respondents. Nineteen percent of the inmates reported receiving treatment or other assistance for substance abuse in the year prior to incarceration.

8.2.3 Relationship Between Substance Use and Criminal Activity

Missouri jail inmates were involved in criminal activities prior to being incarcerated, and our findings suggest that substance use was related to the continuance and exacerbation of criminal activities. Inmates who reported heavy alcohol use, any illicit drug use, and illicit drug use excluding marijuana reported a higher mean number of arrests in the year prior to incarceration than did nonusers. Additionally, inmates who reported using illicit drugs also reported committing more violent, property, and drug crimes than nonusers. Among heavy alcohol users, the mean number of violent and drug crimes, respectively, was higher than for nonusers. However, inmates who were not heavy alcohol users reported higher levels of property crime than did users. Inmates who met the criteria for alcohol or drug treatment or intervention also had higher mean numbers of drug crimes than inmates who did not meet the criteria. Approximately half (49%) of the inmates reported being high or intoxicated when they committed the offense that resulted in their current incarceration.

8.3 Policy Implications and Recommendations

Based on the findings of this study and discussions with State staff from the Division of Alcohol and Drug Abuse, this section presents important policy implications and recommendations for dealing with the substance abuse problems of Missouri's jail inmates. However, it is important to note that the information presented in this report is based on a small sample of Missouri jail inmates from four jails throughout the state. The resulting sample may not be representative of jail inmates throughout the state.

A substantial proportion of Missouri jail inmates clearly suffered from substance use problems and were therefore in need of treatment or intervention prior to incarceration. Additionally, substance use problems appear to be associated with the criminality of many jail inmates. The general recommendations that can be gleaned from these findings are as follows:

- The State of Missouri may benefit, both financially and socially, from increasing the amount of comprehensive substance abuse treatment services that are available to its citizens. Doing so would likely address the substance abuse treatment needs of many who would otherwise end up in the criminal justice system, thus reducing their criminality and the future costs associated with the prosecution and incarceration of drug-involved offenders.

- The State of Missouri may benefit from increasing the amount of comprehensive substance abuse treatment services that is available to its incarcerated population. Treating jail and prison inmates while they are incarcerated offers an opportunity to meet the needs of a high-risk population and to prevent the consequences and related costs of the future criminality that is related to or exacerbated by substance use. Many jails and prisons in Missouri currently provide some form of substance abuse treatment, but the intensity, availability, and effectiveness of these approaches vary across institutions and are not well documented. Standardization, evaluation, and intensification would likely improve the effectiveness of any current corrections-based substance abuse treatment efforts and would greatly benefit the State of Missouri.

- The State of Missouri may benefit from diverting a proportion of its prison inmates to community-based substance abuse treatment facilities. Inmates with limited and nonviolent criminal histories who are in need of substance abuse treatment or intervention might be better served by treatment than by incarceration, which could save the State valuable resources by reducing the short-terms costs associated with incarcerating nonviolent substance users and the long-term costs of prosecuting and incarcerating those who recidivate. In the present study, 86% of the 519 inmates, or 446 inmates, were determined to be in need of substance abuse treatment or intervention. Seventy-six percent of the inmates who were in need of treatment or intervention reported having *never* been arrested for committing a violent crime, which equates to 65% of the study sample who might have been eligible for a diversion effort designed to treat, rather than incarcerate, nonviolent substance users who are in need of treatment or intervention.

8.4 Conclusions

Because effective substance abuse treatment has been shown to reduce criminality and recidivism, the State of Missouri may consider it financially and socially beneficial to implement a system that identifies offenders in need of treatment or intervention and provides appropriate treatment services. This study identified several areas that the State of Missouri can address to improve substance abuse treatment services for jail inmates.

References

American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition. Washington DC, American Psychiatric Association.

Breslau, N. (1985). Depressive symptoms, major depression, and generalized anxiety: A comparison of self-reports on CES-D and results from diagnostic interviews. *Psychiatry Research*, *15*, 219-229.

The Disaster Center. (2000). Retrieved October 3, 2002, from http://www.disastercenter.com.

Field, G. (1989). The effects of intensive treatment on reducing the criminal recidivism of addicted offenders. *Federal Probation*, *53*(4), 51-56.

Gerstein, D. R., Johnson, R. A., Harwood, H., Fountain, D., Suter, N., & Malloy, K. (1994). *Evaluating Recovery Services: The California Drug and Alcohol Treatment Assessment* (CALDATA). Sacramento, CA: National Opinion Research Center.

Harrison, L. D. (1995). The validity of self-reported data on drug use. *Journal of Drug Issues*, *25*, 91-111.

Horgan, C., Marsden, M. E., & Larson, M. J. (1993, October). *Substance abuse: The nation's number one health problem: Key indicators for policy* (prepared for the Robert Wood Johnson Foundation). Waltham, MA: Brandeis University, Heller Graduate School, Institute for Health Policy.

Hubbard, R. L., Marsden, M. E., Rachal, J. V., Harwood, H. J., Cavanaugh, E. R., & Ginzburg, H. M. (1989). *Drug abuse treatment: A national study of effectiveness*. Chapel Hill, NC: University of North Carolina Press.

Kroutil, L. A., Federman, E. B., Akin, D. R., et al. (1997, September). *Use of Alcohol and illicit drugs and need for treatment among Louisiana adult household residents: 1996*. Prepared for the Louisiana Department of Health and Hospitals. Research Triangle Park, NC: Research Triangle Institute.

Missouri Department of Economic Development. (2002). Retrieved October 3, 2002, from http://www.ded.state.mo.us/.

National Center on Addiction and Substance Abuse at Columbia University. (2001, February). *National survey of American attitudes on substance abuse VI: Teens*. New York: Author.

Rouse, B. A., Kozel, N. J., & Richards, L. G. (Eds.). (1985). *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph 57, DHHS Publication No. ADM 85-1402). Rockville, MD: National Institute on Drug Abuse.

U.S. Bureau of Justice Statistics. (August 2001). Census of Jails, 1999. NCJ 186633. Retrieved October 3, 2002, from http://www.ojp.usdoj.gov/bjs/.

U.S. Census Bureau. (2000). United States Census 2000. Retrieved October 2, 2002, from http://www.census.gov.

U.S. Department of Labor. (2002). Retrieved October 3, 2002, from http://www.dol.gov/.

Appendix A

Demographic Characteristics of Eligible Jail Inmates and the Jail Inmate Sample

Appendix A Demographic Characteristics of Eligible Jail Inmates and the Jail Inmate Sample

Data collection was conducted in four jails throughout Missouri. Specifically, inmates were sampled from jails in Boone County, Jackson County, St. Louis County, and Greene County. These sites were purposively selected to provide geographic and demographic diversity. Male and female inmates who were at least 18 years of age and housed at the jails for less than 200 days were eligible for inclusion in the sample. Among inmates meeting the criteria, those who were deemed extremely dangerous or under medical or psychiatric supervision were excluded. In the larger jails, that is, St. Louis County and Jackson County, male inmates were randomly sampled. All eligible males in Boone County and Greene County were approached to participate in the study. Given the smaller number of female inmates, sampling was not necessary in any of the jails. Data were collected over a 2-month period (November and December 2001).

A roster of inmates housed at each facility was given to the researchers prior to data collection. To estimate how the sample included in this study represented the eligible inmates in the four surveyed jails, we examined the ages and races of the sampled inmates and compared it with the roster of eligible inmates. Reasons that eligible inmates might not have been interviewed included refusals, not available, sick, or released.

Ages for the male inmates listed in the roster compared with male inmates in the sample showed little or no difference (see **Table A.1**). We do, however, see some small differences in race. (Note: Race was provided for three of the four jail rosters.) Approximately one-third of the inmates from both the roster and the sample were White. Males listed on the roster had a slightly higher percentage of African Americans (63%) compared with the male sample (59%). The sample, on the other hand, had a higher percentage of males in the Other race category (6%) compared with all eligible male inmates (2%).

Table A.1 Demographic Characteristics of Male Eligible Inmates (Roster) and the Male Missouri Jail Inmate Sample

	Roster		Sample	
Demographic Characteristic	**n**	**%**	**n**	**%**
Total	1,044		370	
Age				
18–24	313	30	111	30
25–34	311	30	108	29
35+	420	40	151	41
Total	905		280	
Race[1]				
White	320	35	100	36
African American	569	63	164	59
Other	16	2	16	6

[1] Three of the four jails provided information on race.

Source: Missouri Jail Inmate Survey, 2001.

The ages of eligible female inmates from the rosters differed slightly from the sample of female inmates (see **Table A.2**). For example, 32% of the females in the roster were aged 25 to 34 years compared with 36% of the females in the sample. Forty-seven percent of the eligible women (from the roster) were 35 or older, whereas 42% of the women in the sample were 35 or older. A comparison of race showed slight differences between the females in the roster and those in the sample (note: race was provided for three of the four jail rosters). Eligible female inmates were more likely to be White (48%) than were women in the sample (42%). And females in the sample were more likely to be in the Other race category compared with the females from the roster, 8% and 2%, respectively.

The differences in age and race noted above were relatively small, indicating that the sample drawn for this study adequately represented the inmates housed in the sampled jails. A possible explanation for the differences in race across the two groups is that the race for eligible inmates was drawn from the rosters provided by the jail. When an inmate was interviewed, he or she was asked to choose a race category. An inmate could have chosen a different race from the one listed on the roster. For example, an inmate designated as White in the official record could have indicated during the interview that he or she was American Indian. Such discrepancies would increase the number of inmates in the Other category, which is evidenced in the data for both male and female inmates in the sample.

Table A.2 Demographic Characteristics of Female Eligible Inmates (Roster) and the Female Missouri Jail Inmate Sample

	Roster		Sample	
Demographic Characteristic	**n**	**%**	**n**	**%**
Total	327		149	
Age				
18–24	76	23	33	22
25–34	105	32	54	36
35+	146	47	62	42
Total	266		111	
Race[1]				
White	129	48	47	42
African American	133	50	55	50
Other	4	2	9	8

[1] Three of the four jails provided information on race.

Source: Missouri Jail Inmate Survey, 2001.

Appendix B

Analysis by Site

Appendix B

The four jails throughout the State of Missouri were chosen to represent jails in different geographical locations. We present findings across the four jails for male and female inmates so that similarities and differences can be examined.

B.1 Licit Substance Use

Differences in licit substance use, that is, tobacco, alcohol, and inhalants, by site for male inmates are presented in **Table B.1.** We found little difference in tobacco use across the four sites, with approximately 80% of the males reporting using tobacco in the year prior to incarceration. Use of alcohol did show differences across sites. Males in Greene County reported higher levels of alcohol use (92%) compared with the other three sites, where reported use was 85% or lower. Inhalant use among male inmates was less than 1% across all sites.

Table B.1 Prevalence of Licit Substance Use in the Year Prior to Incarceration by Site for the Male Missouri Jail Inmate Sample

Licit Substance	St. Louis County (%)	Greene County (%)	Jackson County (%)	Boone County (%)
Tobacco	77	80	81	83
Alcohol	85	92	82	85
Inhalant	<1%	0	0	0

Source: Missouri Jail Inmate Survey, 2001.

Findings on licit drug use for female inmates by site are presented in **Table B.2.** Females in Boone County reported the lowest tobacco use in the year prior to incarceration (52%), followed by females in St. Louis County, where 69% of the females reported using tobacco. Over 80% of the women in Greene County and Jackson County reported using tobacco in the year prior to incarceration. We also see site differences in reported alcohol use: females in Jackson County reported the lowest use (59%), and females in Greene County the highest (81%). Inhalant use, although low across the four sites, was highest for female inmates in Greene County (5%) and Jackson County (3%). No female inmates in St. Louis County or Boone County reported inhalant use in the year prior to incarceration.

Table B.2 Prevalence of Licit Substances in the Year Prior to Incarceration by Site for the Female Missouri Jail Inmate Sample

Licit Substance	St. Louis County (%)	Greene County (%)	Jackson County (%)	Boone County (%)
Tobacco	69	81	84	52
Alcohol	71	81	59	78
Inhalant	0	5	3	0

Source: Missouri Jail Inmate Survey, 2001.

B.2 Illicit Drug Use

We found differences across sites in male inmates' reports of illicit drug use (see **Table B.3**). Males in Greene County reported the highest level of illicit drug use in the year prior to incarceration compared with males in the other three jails. Reported marijuana use ranged from 56% in Boone County to 76% in Greene County. Powder cocaine use was reported at about the same levels by males in Greene County (30%) and Boone County (29%) and at about the same but lower levels by males in St. Louis County (18%) and Jackson County (16%). We found the highest reported use of hallucinogens in Boone County, where approximately one-quarter (23%) of the male inmates reported use. Less than 18% of the males in the other jails reported use of hallucinogens. Reported use of crack cocaine also showed differences by jail: 20% of the males in Greene County and Jackson County reported using crack in the year prior to incarceration compared with 27% of the males in St. Louis County and 31% of those in Boone County. Almost half (47%) of the male inmates in Greene County reported using amphetamine in the year prior to incarceration. This is the highest reported use among the males and far exceeds reported use in the other three jails: St. Louis County, 8%; Jackson County, 14%; and Boone County, 14%. Reported heroin use ranged from 2% in Jackson County to 12% in St. Louis County.

Table B.3 Prevalence of Illicit Drugs in the Year Prior to Incarceration by Site for the Male Missouri Jail Inmate Sample

Illicit Drug	St. Louis County (%)	Greene County (%)	Jackson County (%)	Boone County (%)
Any illicit drug[1]	76	86	70	67
Marijuana	63	76	60	56
Powder cocaine	18	30	16	29
Hallucinogens	12	17	14	23
Crack cocaine	27	20	20	31
Amphetamine	8	47	14	14
Heroin/opiates	12	9	2	10

[1]Any illicit drug includes marijuana, powder cocaine, hallucinogens, crack cocaine, amphetamine, and heroin/opiates.

Source: Missouri Jail Inmate Survey, 2001.

Illicit drug use among female inmates also showed differences across the four jails (see **Table B.4)**. Reported marijuana use in the year prior to incarceration was highest in Greene County (62%) and Boone County (61%). Less than half of the women in Jackson County (49%) and St. Louis County (44%) reported marijuana use during that time period. Female inmates in Greene County reported the highest use of powder cocaine, hallucinogens, and amphetamine. In fact, reported use of these drugs was almost twice as high among the females in Greene County than among those in the other three jails. For example, over half (51%) of the women in Greene County reported amphetamine use in the year prior to incarceration, compared with 19% in Jackson County, 17% in St. Louis County, and 13% in Boone County. On the other hand, female inmates in Greene County reported the lowest use of crack cocaine (11%) in the year prior to incarceration compared with one-third or more of the females in Jackson County (43%), Boone County (35%), and St. Louis County (33%). Heroin use varied far less, reported by 14% of the females in Greene County; 12% of those in St. Louis County; 9% in Boone County; and 3% in Jackson County.

Table B.4 Prevalence of Illicit Drugs in the Year Prior to Incarceration by Site for the Female Missouri Jail Inmate Sample

Illicit Drug	St. Louis County (%)	Greene County (%)	Jackson County (%)	Boone County (%)
Any illicit drug[1]	69	76	73	70
Marijuana	44	62	49	61
Powder cocaine	10	27	16	13
Hallucinogens	6	24	8	13
Crack cocaine	33	11	43	35
Amphetamine	17	51	19	13
Heroin/opiates	12	14	3	9

[1]Any illicit drug includes marijuana, powder cocaine, hallucinogens, crack cocaine, amphetamine, and heroin/opiates.

Source: Missouri Jail Inmate Survey, 2001.

B.3 Need for Alcohol or Drug Treatment and Need for Treatment or Intervention

More than half of the male inmates in the four jails met the criteria for need for treatment for alcohol (see **Table B.5**). The highest need for treatment was seen in Greene County (63%). Similarly, approximately half of the males met the criteria for need for treatment for any illicit drug, with the highest need found in Greene County (56%). Need for treatment for alcohol or any illicit drug ranged from 61% in Jackson County to 75% in Greene County.

The percentage of inmates who met the need for treatment or intervention ranged from 64% in Jackson County to 83% in Greene County. Approximately two-thirds of the males in all four jails met the criteria for need for treatment or intervention for any illicit drug, and over 80% met the need for alcohol or any illicit drug.

Table B.5 Prevalence of Need for Treatment and Need for Treatment or Intervention in the Year Prior to Incarceration by Site for the Male Missouri Jail Inmate Sample

Type of Need	St. Louis County (%)	Greene County (%)	Jackson County (%)	Boone County (%)
Need for Treatment				
Alcohol	53	63	50	58
Any illicit drug	53	56	48	46
Alcohol or any illicit drug	67	75	61	69
Need for Treatment or Intervention				
Alcohol	75	83	64	79
Any illicit drug	68	77	63	64
Alcohol or any illicit drug	86	94	81	96

Note: Need for *treatment* is defined as being diagnosed with dependence or abuse for alcohol or drugs in the year prior to incarceration; need for *treatment or intervention* is defined as being diagnosed with dependence or abuse for alcohol or drugs in the year prior to incarceration or being diagnosed with lifetime dependence or abuse for alcohol or drugs *and* having used alcohol or drugs in the year prior to incarceration.

Source: Missouri Jail Inmate Survey, 2001.

Approximately one-third or more of the female inmates in each of the four jails met the criteria for need for alcohol treatment in the year prior to incarceration (see **Table B.6**). The percentage of females who met the criteria for need for treatment for illicit drugs ranged from 49% in Jackson County to 57% in Greene County. More than half of the females (57%) in each jail met the criteria for need for alcohol or drug treatment.

Approximately half of the women in each of the four jails met the criteria for need for treatment or intervention for alcohol in the year prior to incarceration, with female inmates in Boone County reporting the greatest need, 74%. Need for treatment or intervention for any illicit drug ranged from 61% in Boone County to 70% in Greene County, and need for treatment or intervention for alcohol *or any illicit drug* ranged from 69% in St. Louis County to 87% in Boone County.

Table B.6 Prevalence of Need for Treatment and Need for Treatment or Intervention in the Year Prior to Incarceration by Site for the Female Missouri Jail Inmate Sample

Type of Need	St. Louis County (%)	Greene County (%)	Jackson County (%)	Boone County (%)
Need for Treatment				
Alcohol	35	32	38	44
Any illicit drug	52	57	49	52
Alcohol or any illicit drug	60	68	57	70
Need for Treatment or Intervention				
Alcohol	50	59	49	74
Any illicit drug	62	68	70	61
Alcohol or any illicit drug	69	86	81	87

Note: Need for treatment is defined as being diagnosed with dependence or abuse for alcohol or drugs in the year prior to incarceration; need for treatment or intervention is defined as being diagnosed with dependence or abuse for alcohol or drugs in the year prior to incarceration or being diagnosed with lifetime dependence or abuse for alcohol or drugs *and* having used alcohol or drugs in the year prior to incarceration.

Source: Missouri Jail Inmate Survey, 2001.

B.4 Substance Use Dependence and Abuse

Male inmates in Greene County reported the highest rate of dependence on alcohol (44%) in the year prior to incarceration (see **Table B.7**). Approximately one-third of the males in the other three jails met the criteria for dependence on alcohol. Male inmates in Greene County also reported the highest levels of dependence on any drug and any drug including alcohol.

Male inmates meeting the criteria for alcohol abuse were fairly similar across sites, ranging from 18% in Greene County to 23% in Boone County. Abuse of any drug, however, showed differences across jails. Inmates in Jackson County reported the highest level of drug abuse (16%) whereas Greene County inmates reported the lowest, 8%. Abuse of any substance, including alcohol, in the year prior to incarceration was lowest in Greene County (9%). Abuse of any substance, including alcohol, in the other three jails was similar: St. Louis County, 17%; Jackson County, 19%; and Boone County, 17%.

Table B.7 Prevalence of Substance Use Dependence and Abuse in the Year Prior to Incarceration by Site for the Male Missouri Jail Inmate Sample

Dependence/Abuse	St. Louis County (%)	Greene County (%)	Jackson County (%)	Boone County (%)
Dependence				
Alcohol	33	44	31	35
Any drug	40	48	32	36
Any drug incl. alcohol	50	66	42	52
Abuse				
Alcohol	20	18	19	23
Any drug	12	8	16	10
Any drug incl. alcohol	17	9	19	17

Note: For an inmate to meet past year DSM-IV diagnostic criteria for substance *dependence*, three or more of the dependence symptoms listed in Appendix C had to have been reported in the year prior to incarceration. To meet past year DSM-IV diagnostic criteria for substance *abuse*, the inmate must *not* meet the criteria for dependence and must report one or more of the abuse symptoms listed in Appendix C. Note that dependence and abuse are mutually exclusive categories: if a person meets the diagnostic criteria for dependence, he or she cannot also be diagnosed as an abuser.

Source: Missouri Jail Inmate Survey, 2001.

Female inmates in St. Louis County reported the lowest level of alcohol dependence (23%) in the year prior to incarceration, whereas approximately 30% of the female inmates in the other three jails reported alcohol dependence during that time period (see **Table B.8**). Dependence on drugs ranged from 43% in Jackson County to 51% in Greene County. More than half of the females in each jail met the criteria for dependence on any drug including alcohol.

Less than 15% of the female inmates in each jail reported abuse of alcohol, of any drug, or of any drug including alcohol during the year prior to incarceration. There was little variation across sites except in reports of alcohol abuse, which ranged from 5% in Greene County to 13% in Boone County.

Table B.8 Prevalence of Substance Use Dependence and Abuse in the Year Prior to Incarceration by Site for the Female Missouri Jail Inmate Sample

Dependence/Abuse	St. Louis County (%)	Greene County (%)	Jackson County (%)	Boone County (%)
Dependence				
Alcohol	23	27	30	30
Any drug	48	51	43	44
Any drug incl. alcohol	54	60	51	61
Abuse				
Alcohol	12	5	8	13
Any drug	4	5	5	9
Any drug incl. alcohol	6	8	5	9

Note: For an inmate to meet past year DSM-IV diagnostic criteria for substance *dependence*, three or more of the dependence symptoms listed in Appendix C had to have been reported in the year prior to incarceration. To meet past year DSM-IV diagnostic criteria for substance *abuse*, the inmate must *not* meet the criteria for dependence and must report one or more of the abuse symptoms listed in Appendix C. Note that dependence and abuse are mutually exclusive categories; if a person meets the diagnostic criteria for dependence, he or she cannot also be diagnosed as an abuser.

Source: Missouri Jail Inmate Survey, 2001.

B.5 Alcohol or Drug Treatment or Assistance

Boone County had the highest percentage (21) of male inmates who reported being in treatment in the year prior to incarceration (see **Table B.9**) compared with 15% or less of the males in the other three jails. Male inmates who reported receiving assistance in the year prior to incarceration ranged from 10% in Boone County to 16% in Greene County. Male inmates in Boone County reported the highest level of treatment or assistance, followed by male inmates in Greene County (17%), St. Louis County (16%), and Jackson County (15%).

Table B.9 Prevalence of Alcohol or Drug Treatment or Assistance in the Year Prior to Incarceration by Site for the Male Missouri Jail Inmate Sample

Treatment or Assistance	St. Louis County (%)	Greene County (%)	Jackson County (%)	Boone County (%)
Any treatment[1]	15	14	15	21
Any assistance[2]	11	16	12	10
Any treatment or assistance[3]	16	17	15	21

Note: Questions about treatment or assistance were asked only of respondents who reported use of alcohol or drugs.

[1] Any treatment includes detoxification, residential treatment, halfway house services, outpatient treatment, and methadone maintenance.

[2] Any assistance includes substance abuse counseling outside of a formal treatment program, attendance at self-help groups (e.g., Alcoholics Anonymous, Narcotics Anonymous, etc.), pastoral counseling for substance abuse, or participation in programs for people arrested or convicted of driving while impaired (DWI).

[3] Any treatment *or* assistance includes all services in footnotes 1 and 2.

Source: Missouri Jail Inmate Survey, 2001.

The percentage of female inmates who reported receiving alcohol or drug treatment in the year prior to incarceration ranged from 11% in Jackson County to 29% in St. Louis County (see **Table B.10**). Women in the Jackson County jail also reported the lowest level of assistance during that time (8%), compared with 21 to 30% of the women in the other three jails. The percentage of females who received either treatment or assistance ranged from 11% in Jackson County to 32% in Greene County.

Table B.10 Prevalence of Alcohol or Drug Treatment or Assistance in the Year Prior to Incarceration by Site for the Female Missouri Jail Inmate Sample

Treatment or Assistance	St. Louis County (%)	Greene County (%)	Jackson County (%)	Boone County (%)
Any treatment[1]	29	27	11	17
Any assistance[2]	21	30	8	26
Any treatment or assistance[3]	29	32	11	26

Note: Questions about treatment or assistance were asked only of respondents who reported use of alcohol or drugs.

[1] Any treatment includes detoxification, residential treatment, halfway house services, outpatient treatment, and methadone maintenance.

[2] Any assistance includes substance abuse counseling outside of a formal treatment program, attendance at self-help groups (e.g., Alcoholics Anonymous, Narcotics Anonymous, etc.), pastoral counseling for substance abuse, or participation in programs for people arrested or convicted of driving while impaired (DWI).

[3] Any treatment *or* assistance includes all services in footnotes 1 and 2.

Source: Missouri Jail Inmate Survey, 2001.

Appendix C

Definition of Dependence and Abuse
and
Criteria Used to Determine
Need for Treatment or Intervention

Criteria Used to Determine Need for Treatment or Intervention

C.1 Defining Alcohol and Illicit Drug Use Dependence and Abuse

For the present study, substance abuse treatment need was determined using DSM-IV criteria for dependence and abuse. Inmates who reported a certain number of dependence or abuse symptoms in the 12 months prior to incarceration (past year) were determined to be dependent on or abusers of substances. Such a determination indicated that these inmates had problems with substances and were likely in need of treatment or intervention services.

C.1.1 Definition of Past Year Dependence and Abuse

The American Psychiatric Association (APA) has established criteria for psychoactive substance dependence and abuse that have been widely used as a standard for identifying people with serious problems. These criteria have been updated periodically and published in diagnostic manuals. The present study is based on the *American Psychiatric Association's (APA) Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV)* (APA, 1994).

For an inmate to meet past year DSM-IV diagnostic criteria for psychoactive substance *dependence*, three or more of the following symptoms need to have occurred in the 12 months prior to incarceration.

1. tolerance, as defined by a need for markedly increased amounts of the substance to achieve intoxication or the desired effect, or diminished effect with continued use of the same amount of substance;

2. withdrawal, as defined by characteristic withdrawal symptoms or use of the substance to relieve or avoid withdrawal symptoms;

3. use of a substance in larger amounts or over a longer period than intended;

4. persistent desire or one or more unsuccessful efforts to cut down or control substance use;

5. great deal of time spent getting the substance, taking the substance, or recovering from its effects;

6. important social, occupational or recreational activities are reduced or given up due to the substance use; and

7. continued substance use despite knowledge of persistent or recurrent physical or psychological problems caused or exacerbated by substance use.

The DSM-IV criteria for psychoactive substance *abuse* are meant to capture inmates who abused substances and were not deemed to be dependent. In other words, dependence and abuse are mutually exclusive categories, and once an inmate was determined to be dependent, they could not be determined to be an abuser. For an inmate to meet past year DSM-IV diagnostic criteria for psychoactive substance *abuse*, the inmate must not have been deemed dependent and must report one or more of the following abuse symptoms in the 12 months prior to incarceration:

1. recurrent use resulting in failure to meet major role obligations at work, school or home (e.g., absences, poor performance, neglect of children);

2. recurrent use in physically hazardous situations (e.g., driving while impaired);

3. recurrent legal problems related to the substance; and

4. continued use despite persistent social or interpersonal problems caused or worsened by substance effects.

C.1.2 Definition of Lifetime Dependence and Abuse

To determine prevalence of lifetime dependence and abuse, based on DSM-IV criteria, the symptoms described above were asked, but the time period was expanded to include any period in a person's life. To meet lifetime diagnostic criteria for psychoactive substance *dependence*, three or more of the symptoms listed above needed to have occurred in a person's lifetime. Similarly, for an inmate to meet lifetime diagnostic criteria for psychoactive substance *abuse*, the inmate must not have been deemed dependent (in his or her lifetime) and must report one or more of the abuse symptoms (listed above) in his or her lifetime.

C.2 Criteria for Need for Treatment

If an inmate has met past year DSM-IV dependence or abuse criteria for alcohol or another drug, the inmate was determined to be in need of treatment. Several inmates (15) did not meet past year DSM-IV dependence or abuse criteria but reported receiving treatment in the 12 months prior to incarceration. We considered determining those inmates to be in need of treatment, but because it was a rather small number we decided that only DSM-IV (1994) criteria would be utilized to identify those in need of treatment.

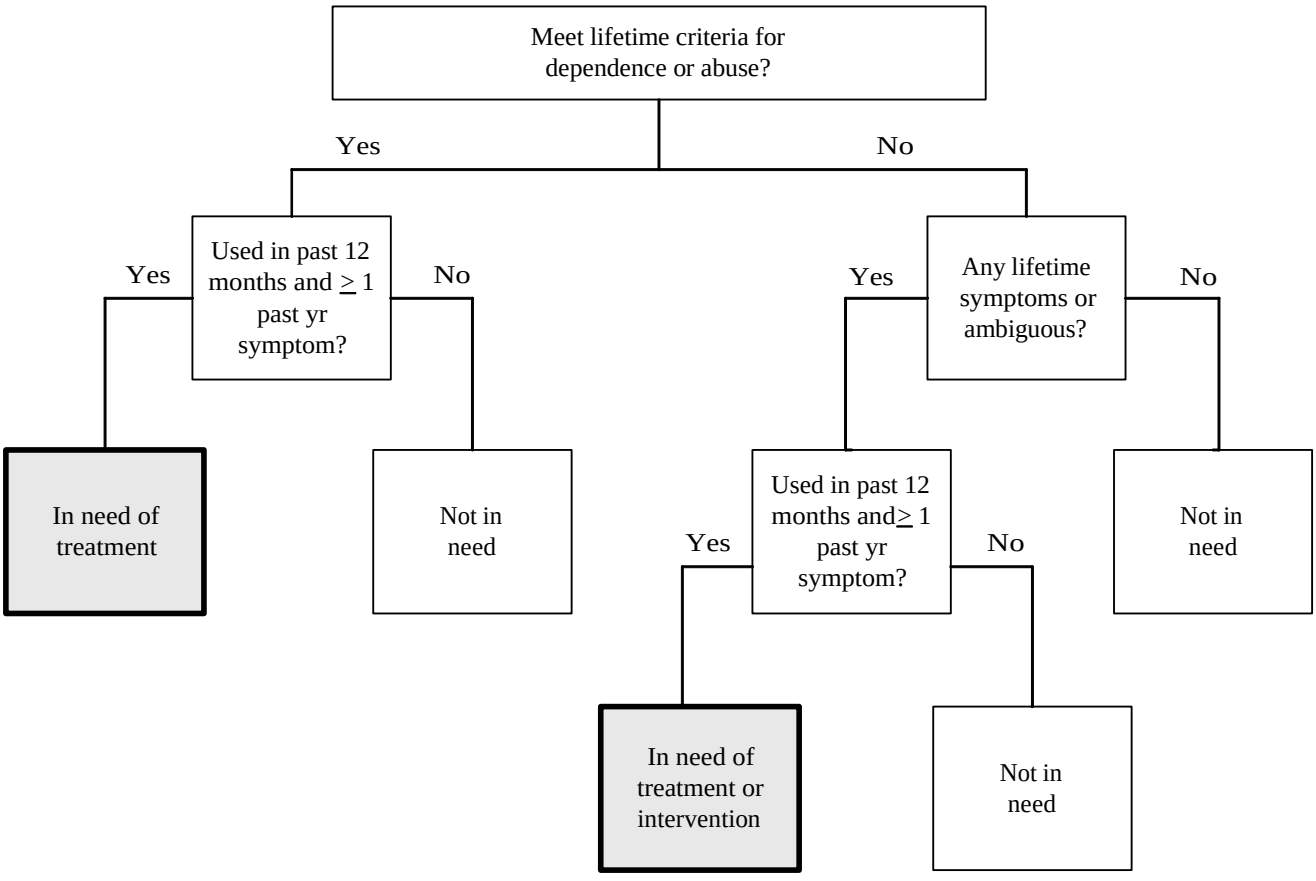
C.3 Criteria for Need for Intervention

Some inmates were not determined to be in need of treatment but clearly needed some assistance (intervention), short of treatment in a formal program, with their alcohol or drug use problems. These inmates were determined to be in need of intervention if they met the following three standards:

- did not meet past year DSM-IV dependence or abuse criteria for alcohol or another drug (as described above);
- met lifetime DSM-IV dependence or abuse criteria for alcohol or another drug (i.e., they reported three or more dependence symptoms or one or more abuse symptoms, but not in the 12 months prior to incarceration); and
- used the alcohol or another drug in the 12 months prior to incarceration.

Throughout this report, the inmates estimated to be in need of treatment and those determined to be in need of intervention were combined to constitute those inmates in need of treatment or intervention. This category is the broadest in terms of the number of inmates who were in need of some sort of assistance with their alcohol or substance use prior to incarceration. These criteria for determining need for treatment or intervention are depicted graphically in ***Figure C.1***.

Figure C.1 Criteria for Determining Need for Treatment or Intervention



Appendix D

Substance Use and Criminal Activity

Appendix D Substance Use and Criminal Activity

To enhance our understanding of the relationship between substance use and criminal activity, we continue our analysis from Chapter 6 by examining the number of arrests in the year prior to incarceration and heavy alcohol use, illicit drug use, and illicit drug use excluding marijuana, as well as the relationship between the number of crimes and substance use.

D.1 Substance Use and Arrests

Male and female inmates differed in their relationships between substance use and arrest. For male inmates, we find no difference in reported arrests (95%) between those who reported heavy alcohol use in the year prior to incarceration and those who did not report use (see **Table D.1**). For female inmates, however, those who reported heavy alcohol use were considerably more likely to report having been arrested (95%) than were females who did not report heavy alcohol use (81%). When we examine the number of reported arrests for male inmates, we see little difference between reported heavy alcohol users and nonusers. For women, we do see a difference in the one-to-five-arrests category: 85% of the females who reported heavy alcohol use also reported having been arrested from one to five times in the year prior to incarceration compared with 71% of the nonusers. There was no difference in the six-plus-arrests category.

An examination of illicit drug use and arrest shows little difference between illicit drug users and nonusers for male inmates, with approximately 95% of both groups reporting having been arrested in the year prior to incarceration. There is a slight difference in number of arrests, with 11% of the illicit drug users reporting being arrested six or more times compared with 8% of the nonusers. As seen with heavy alcohol use, females who reported using an illicit drug in the year prior to incarceration were more likely to report being arrested (93%) than were nonusers (76%). Similarly, females who reported using illicit drugs reported higher numbers of arrests. For example, 13% of the users reported having been arrested six or more times, whereas 2% of the nonusers reported having been arrested six or more times in the year prior to incarceration.

The final arrest analysis looks at the relationship of reported arrest and illicit drug use excluding marijuana in the year prior to incarceration. As seen with alcohol and illicit drug users, males who reported using illicit drugs excluding marijuana were comparable to the nonusers in the likelihood of reporting having been arrested, 97% and 94%, respectively. Further, the number of arrests was approximately the same for users and nonusers. For females, however, we see large differences. Ninety-six percent of the females who reported using illicit drugs excluding marijuana reported being arrested compared with 77% of the nonusers. Similarly, female drug users (excluding marijuana) reported more arrests: 14% of the users reported having been arrested six or more times in the year prior to incarceration compared with 5% of the nonusers.

Table D.1 Percentage of Arrests by Heavy Alcohol, Any Illicit Drug, or Illicit Drug Use Excluding Marijuana in the Year Prior to Incarceration by the Missouri Jail Inmate Sample

	Total (%)		Males (%)		Females (%)	
	Heavy Alcohol Use					
Number of Arrests	Yes	No	Yes	No	Yes	No
0	5	9	5	5	5	19
1–5	84	81	84	84	85	71
6+	11	10	11	11	10	10
	Any Illicit Drug Use					
	Yes	No	Yes	No	Yes	No
0	5	11	5	6	7	24
1–5	83	83	84	86	80	74
6+	12	6	11	8	13	2
	Any Illicit Drug Use Excluding Marijuana					
	Yes	No	Yes	No	Yes	No
0	3	10	3	6	4	23
1–5	85	82	86	84	82	72
6+	12	8	11	10	14	5

Note: Past year heavy alcohol use is defined as weekly consumption of four or more drinks in a 24-hour period for females and weekly consumption of five or more drinks in a 24-hour period for males.

Source: Missouri Jail Inmate Survey, 2001.

D.2 Substance Use and Crimes

An examination of the relationship between reported violent crimes and substance use found that, for both male and female inmates, heavy alcohol users were more likely to report having committed a violent crime in the year prior to incarceration (see **Table D.2)**. For example, 24% of the female heavy alcohol users reported committing a violent crime compared with 10% of the nonusers. Additionally, both male and female heavy alcohol users were more likely to report having

committed one to five violent crimes compared with nonusers. Few inmates, regardless of alcohol use, reported committing six or more violent crimes: 3% of the men and none of the women.

Illicit drug use and violent crimes showed patterns similar to those for heavy alcohol use and violent crimes. Illicit drug users were more likely to report having committed a violent crime in the year prior to incarceration and also reported committing more crimes than nonusers. For example, 20% of the male and female illicit drug users reported committing one to five violent crimes in the year prior to incarceration compared with 13% of the nonusing males and 7% of the nonusing females.

Results for the relationship between violent crimes and illicit drug use excluding marijuana are presented in **Table D.2**. As seen with the two other substance categories, inmates who reported using illicit drugs excluding marijuana were more likely to report having committed a violent crime in the year prior to incarceration and also reported committing more violent crimes. One-quarter of the inmates who reported using illicit drugs excluding marijuana reported committing a violent crime compared with 14% of the nonusers. Similarly, almost one-quarter of the inmates who reported use also reported committing one to five violent crimes, compared with 13% of the nonusers.

Table D.2 Violent Crimes and Past Year Heavy Alcohol, Any Illicit Drug, or Illicit Drug Use Excluding Marijuana by the Missouri Jail Inmate Sample

	Total (%)		Males (%)		Females (%)	
	Heavy Alcohol Use					
Number of Violent Crimes	Yes	No	Yes	No	Yes	No
0	76	86	75	83	76	90
1–5	23	12	22	14	24	10
6+	1	2	3	3	0	0
	Any Illicit Drug Use					
	Yes	No	Yes	No	Yes	No
0	78	88	77	86	80	93
1–5	20	11	20	13	20	7
6+	2	1	3	1	0	0
	Any Illicit Drug Use Excluding Marijuana					
	Yes	No	Yes	No	Yes	No
0	75	86	74	84	78	92
1–5	23	13	23	14	22	8
6+	2	1	3	2	0	0

Note: Violent crimes include murder, attempted murder, rape, robbery, and assault. Past year heavy alcohol use is defined as weekly consumption of four or more drinks in a 24-hour period for females and weekly consumption of five or more drinks in a 24-hour period for males.

Source: Missouri Jail Inmate Survey, 2001.

In analyzing the relationship between property crime and substance use, we found that 32% of the male heavy alcohol users reported committing a property crime in the year prior to incarceration compared with 25% of the nonusers (see **Table D.3**). However, there was little difference between female users and nonusers: 42% of the women who reported heavy alcohol use also reported committing a property crime, whereas 41% of the nonusers reported committing a property crime.

Both male and female inmates who reported using illicit drugs were also more likely to report having committed a property crime in the year prior to incarceration. For example, 35% of the male inmates who reported using drugs also reported committing a property crime compared with 11% of the nonusers. We also found that more than twice as many males who reported using drugs also reported committing one to five property crimes (21%) as compared with 10% of the nonusers. For female inmates, we see the opposite relationship: 31% of the nonusers reported committing one to five property crimes compared with 26% of the users. The difference between users and nonusers who reported committing six or more property crimes was far more dramatic: 14% of the males who reported using drugs in the year prior to incarceration reported having committed six or more property crimes compared with 1% of the inmates who did not report using drugs during

that time period. Similarly, 19% of the females who reported using drugs in the year prior to incarceration reported having committed six or more property crimes compared with 2% of the female nonusers.

In examining the relationship between any illicit drug use excluding marijuana and property crime (see **Table D.3**), once again we see that higher percentages of inmates who reported using drugs (excluding marijuana) also reported committing property crimes. Forty-three percent of the inmates who reported using drugs excluding marijuana also reported committing a property crime compared with 22% of the nonusers. We also find that users reported committing higher numbers of property crimes. One-quarter of the users reported committing one to five property crimes compared with 17% of the nonusers. Similarly, 18% of the users reported committing six or more property crimes compared with 5% of the nonusers.

Table D.3 Property Crimes and Past Year Heavy Alcohol, Any Illicit Drug, or Illicit Drug Use Excluding Marijuana by the Missouri Jail Inmate Sample

	Total (%)		Males (%)		Females (%)	
	Heavy Alcohol Use					
Number of Property Crimes	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
0	66	69	68	75	58	59
1–5	23	19	22	15	27	27
6+	11	12	10	10	15	14
	Any Illicit Drug Use					
	Yes	**No**	**Yes**	**No**	**Yes**	**No**
0	62	82	65	89	55	67
1–5	23	17	21	10	26	31
6+	15	1	14	1	19	2
	Any Illicit Drug Use Excluding Marijuana					
	Yes	**No**	**Yes**	**No**	**Yes**	**No**
0	57	78	59	82	53	65
1–5	25	17	26	12	25	32
6+	18	5	15	6	22	3

Note: Property crimes include burglary, arson, auto theft, forgery, fraud, larceny, and shoplifting.

Source: Missouri Jail Inmate Survey, 2001.

Findings for the relationship between reported drug crimes and substance use in the year prior to incarceration are presented in **Table D.4**. For male inmates, there was almost no difference in percentage of inmates who reported committing a drug crime in the year prior to incarceration: 51% of those inmates who reported heavy alcohol use also reported committing a drug crime compared with 50% of the nonusers. However, we do see a difference in the six-or-more drug

crime category. Forty-one percent of the males who reported heavy alcohol use reported committing six or more drug crimes compared with 36% of the nonusers. For female inmates, we see greater differences between heavy alcohol users and nonusers: 59% of the female heavy alcohol users reported committing a drug crime in the year prior to incarceration, whereas 47% of the nonusers reported committing a drug crime during that time period. A higher percentage of both male and female heavy alcohol users reported committing six or more crimes in the year prior to incarceration compared with nonusers.

The use of any illicit drug and drug crimes showed greater differences between users and nonusers than we saw with heavy alcohol use and drug crimes. For both male and female inmates who reported using drugs in the year prior to incarceration, two-thirds reported committing a drug crime during that period compared with less than 18% of the nonusers. Similarly, we see markedly higher numbers of drug crimes committed by drug users. Over half of the inmates (51%) reported committing six or more drug crimes in the year prior to incarceration compared with 3% of the nonusers.

An examination of illicit drug use excluding marijuana and drug crimes shows findings similar to those for illicit drug use and drug crimes. For example, 70% of the inmates who reported using an illicit drug excluding marijuana in the year prior to incarceration reported committing a drug crime during that time period compared with 33% of the nonusers. And we found that more than half of the users reported committing six or more drug crimes in the year prior to incarceration, compared with 19% of the nonusers.

Table D.4 Drug Crimes and Past Year Heavy Alcohol, Any Illicit Drug, or Illicit Drug Use Excluding Marijuana by the Missouri Jail Inmate Sample

	Total (%)		Males (%)		Females (%)	
	Heavy Alcohol Use					
Number of Drug Crimes	Yes	No	Yes	No	Yes	No
0	47	51	49	50	41	53
1–5	12	15	10	14	17	16
6+	41	34	41	36	42	31
	Any Illicit Drug Use					
	Yes	No	Yes	No	Yes	No
0	35	87	36	89	32	83
1–5	14	10	13	8	17	14
6+	51	3	51	3	51	3
	Any Illicit Drug Use Excluding Marijuana					
	Yes	No	Yes	No	Yes	No
0	30	67	29	67	31	68
1–5	13	14	13	11	13	21
6+	57	19	58	22	56	11

Note: Drug crimes include trafficking, dealing, and possession.

Source: Missouri Jail Inmate Survey, 2001.